

Coville Oregon

Journal

1898

[Pencil collection numbers added
by H. St. John Apr. 1975.]



Woodland, Oregon, July 15, 1898.
Plants about camp.

Acer macrophyllum.

Thuya plicata.

Fraxinus organa

Abies grandis

Populus trichocarpa

Corylus californica

Acer circinatum

Osmaronia erasiformis

Rubus vitifolius

Rubus spectabilis

Symphoricarpos

Ribes atropurpureum

Rosa macrocarpa

Cornus nuttallii

Crataegus rivularis

Rosa gymnocarpa

Berberis aquifolium

Amelanchier alnifolia

Spiraea douglasii

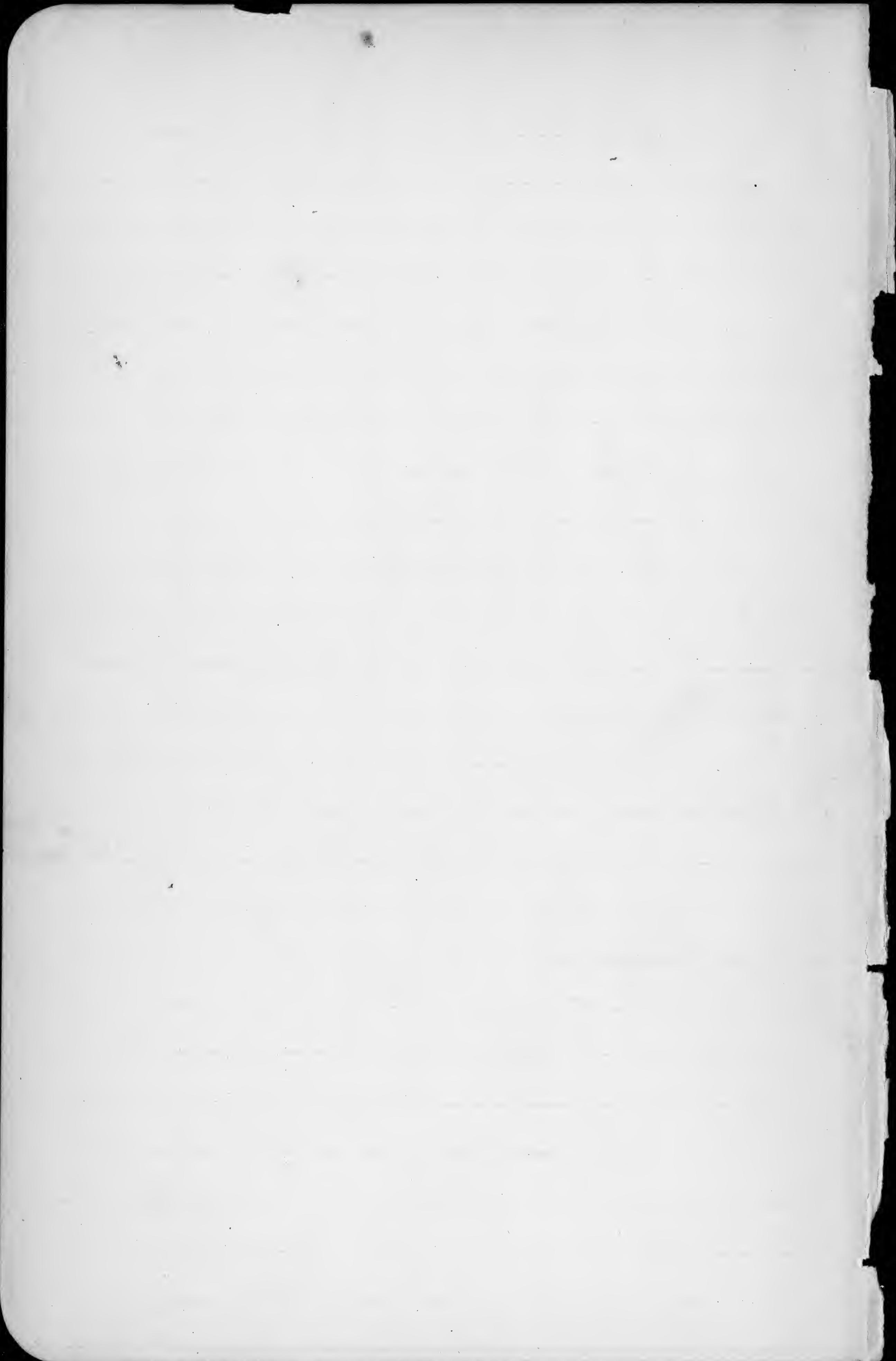
Rubus leucodermis

Pyrus rivularis

Sambucus glauca

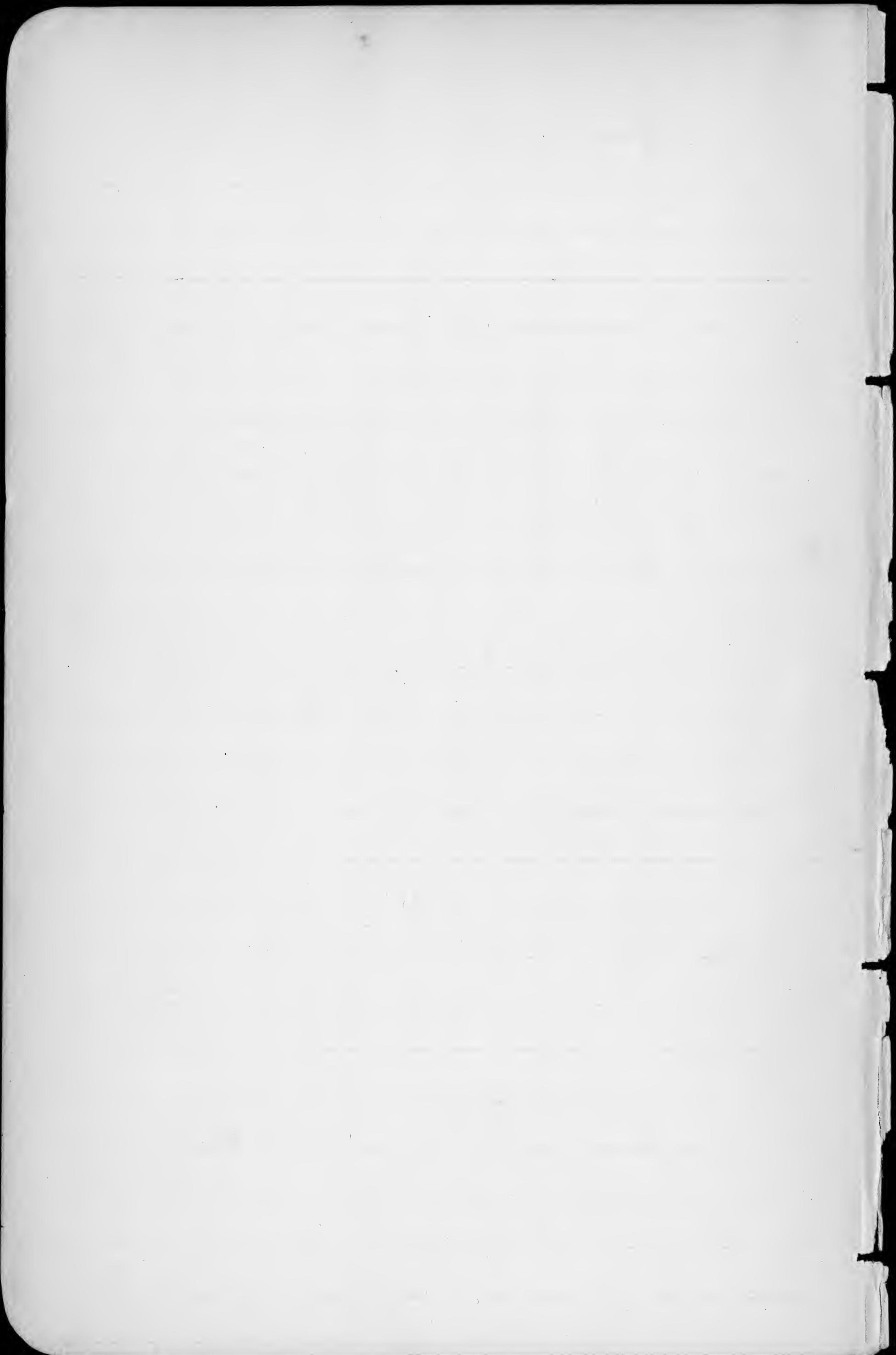
Philadelphus lewisii

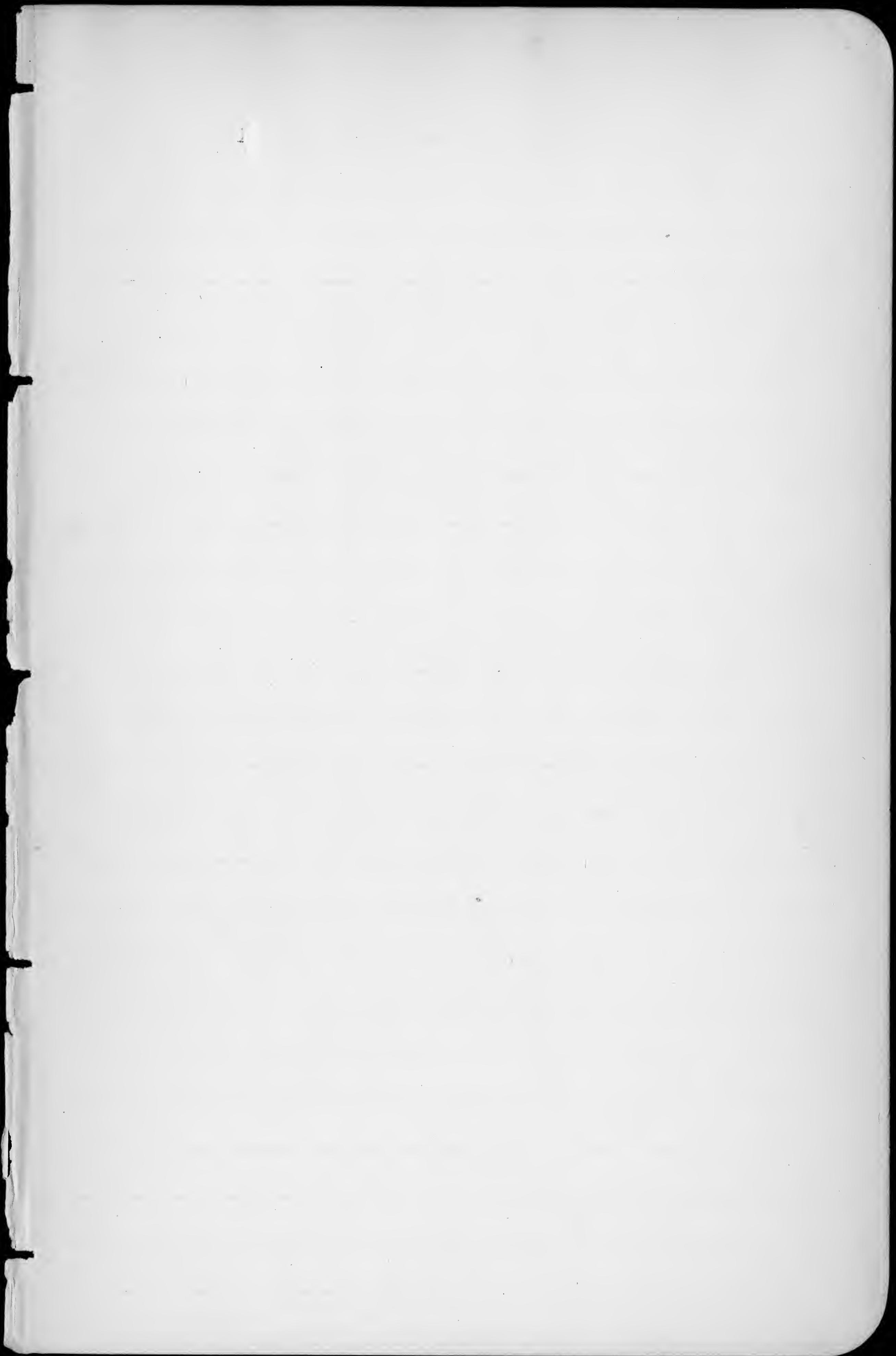
Rhamnus purshiana

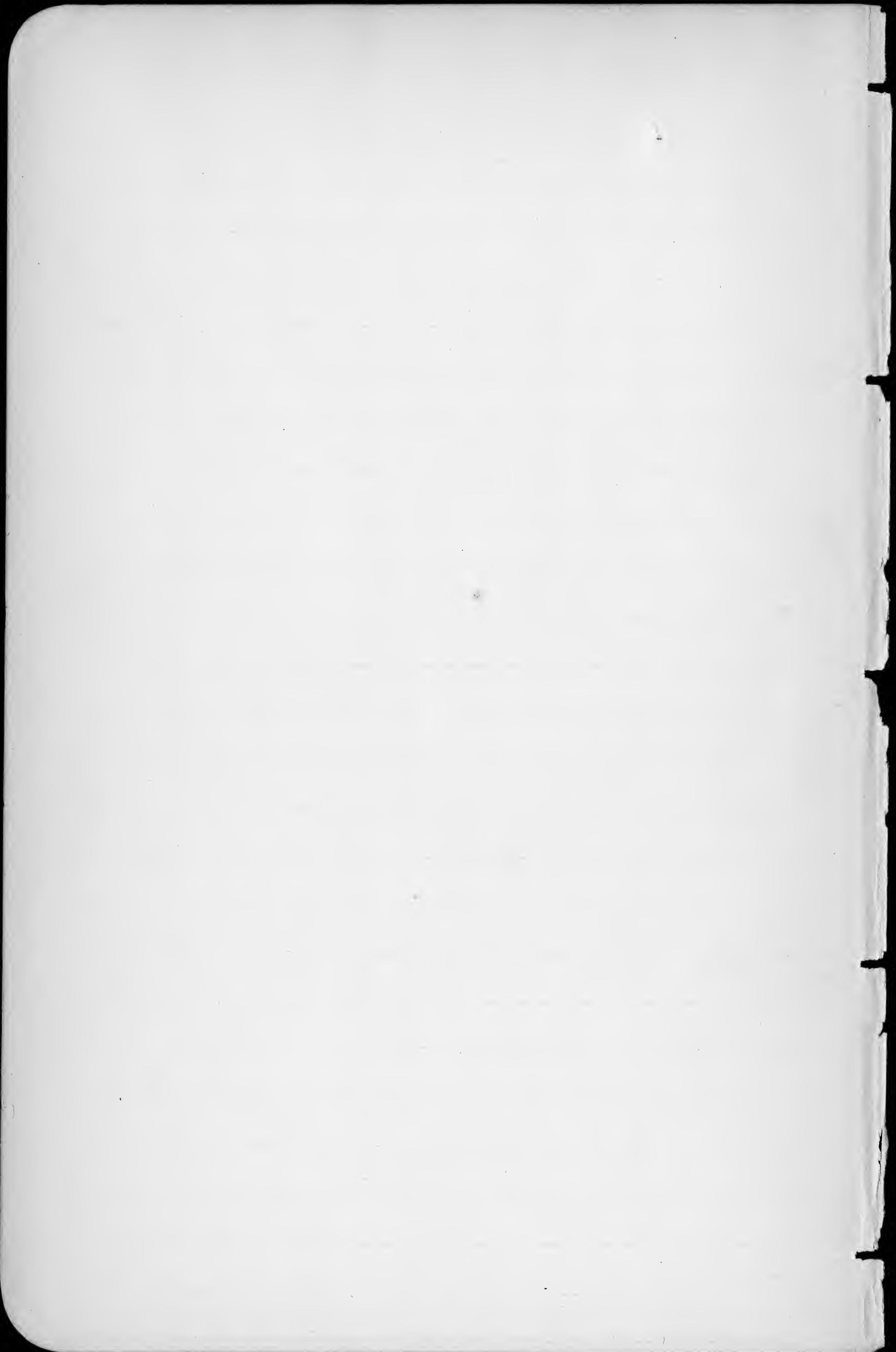


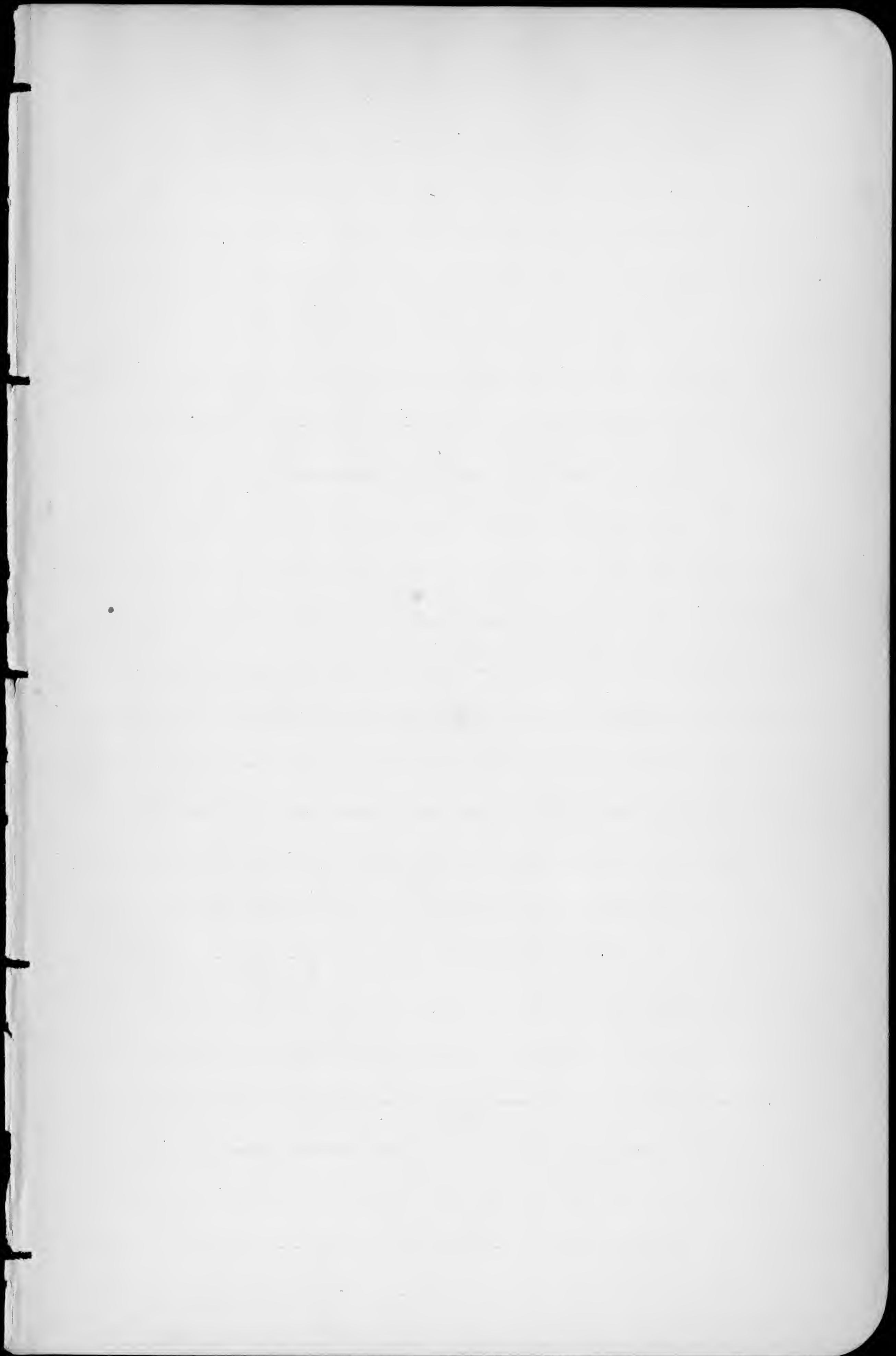
Salix (mittalii) scouleriana
Lonicera ciliosa

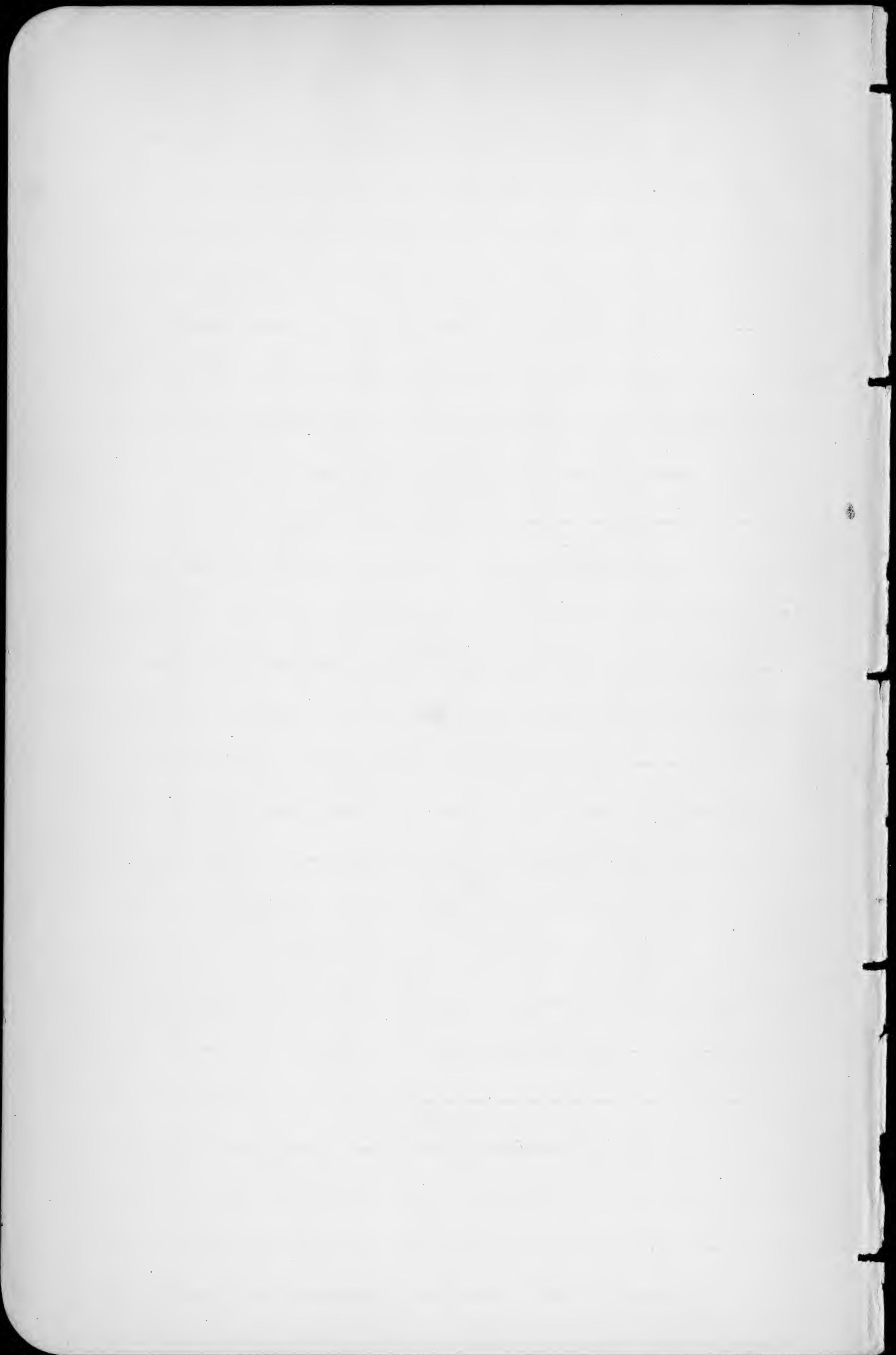
No. 701

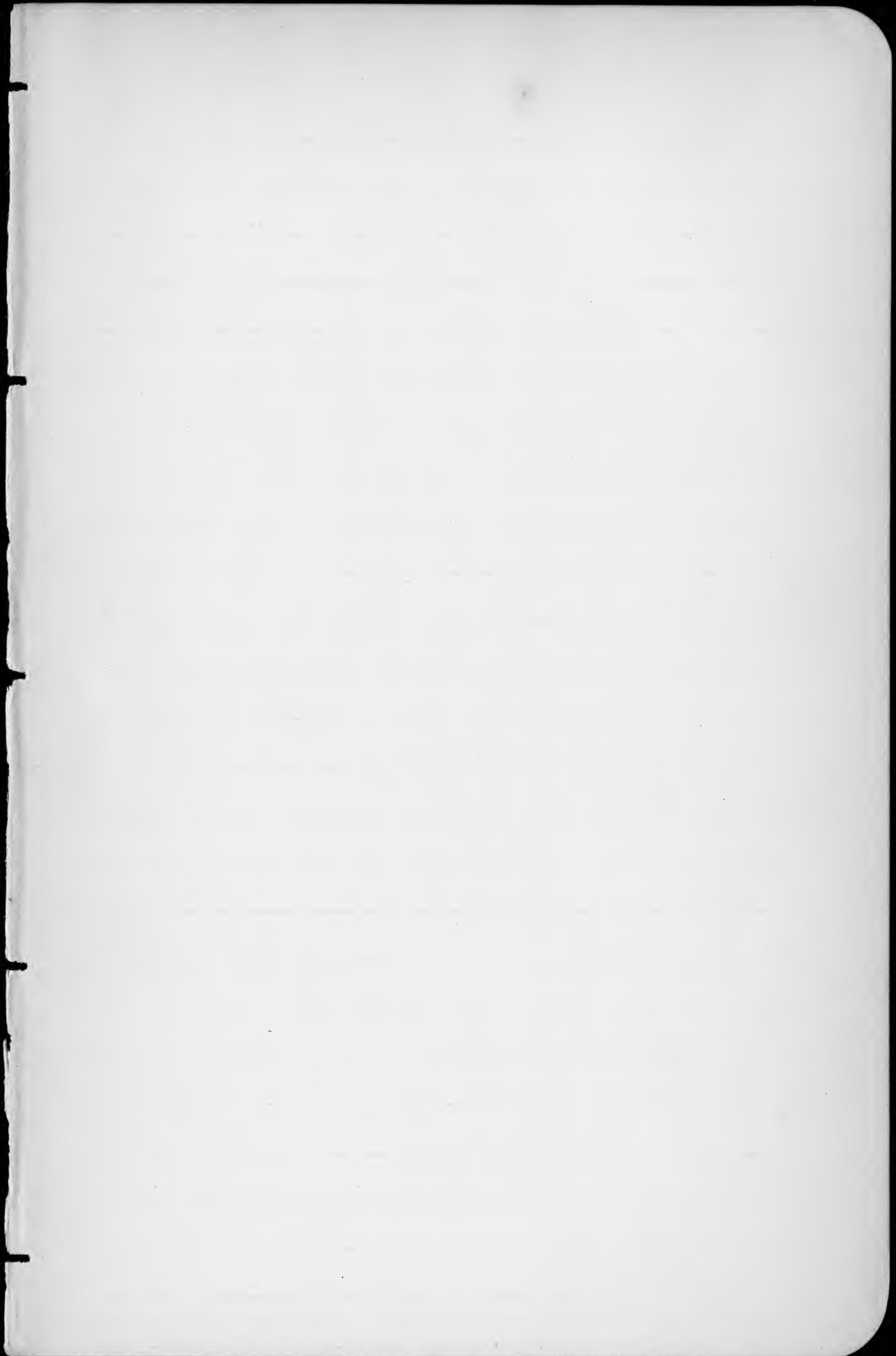


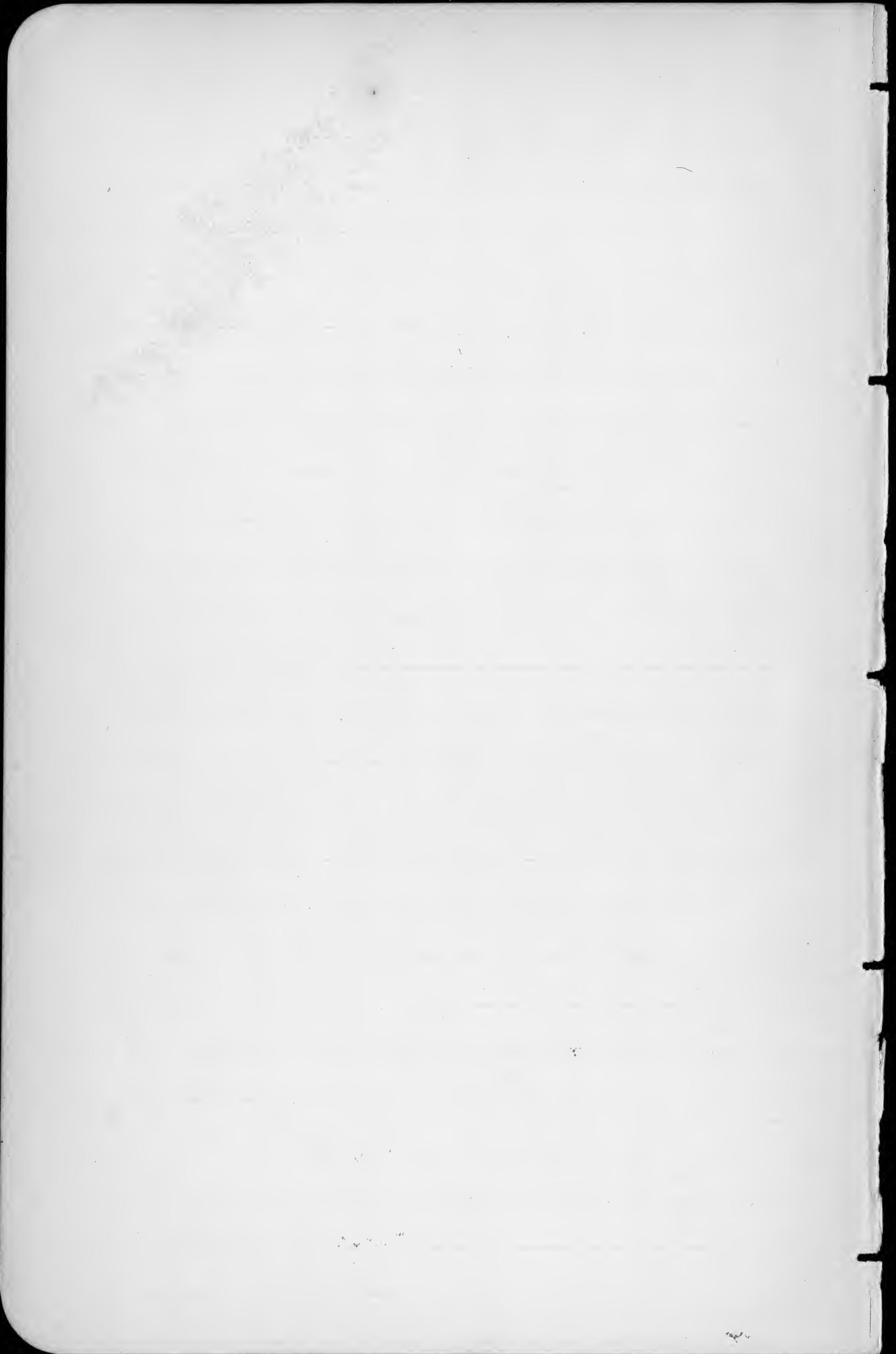












July 18, 1898.

Camp at northeast corner of Lake Merritt.

In the water of the lake are.

Ranunculus reptans, in flower

Batrachium

Polygonum amphibium in flower sparingly

Cleochaës polynotis

Around the lake are

Populus trichocarpa, fallen fruit hairy

Alnus organa

Salix (populoides) lasiandra

.. *(discoloroides) piperi*

.. *longifloroides*

.. *(velutina) sitchensis*

No. 751

No. 752

Cornus sanguinea

Spirea douglasii, in flower

Forest vegetation

Tsuga heterophylla

Pseudotsuga mucronata

Abies plicata

Acer macrophyllum

Acer circinatum

Betula nervosa

Dryopteris murita?

Oxalis

in fruit.

} Mostly near the lake

Comus mollis

Vaccinium parvifolium spring

Rosa seminifera in fruit

Rosa gymnocarpa, with young fruit

1870

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9th Oregon 1898

Achlys triphylla. Leaf-texture of *Jeffersonia*. Young fruit
Tiarella , in flower.

Viola orbiculata?

Clintonia umbra, past flowering

Perarum

Disporum

past flowering

Vagnera simplex, " "

Coptis

in fruit

Trillium

in fruit

Pyrola

Rubus vitifolius

Bottom at north end of lake, additional to above.

Linnaea borealis

Lycopodium

Saxifraga sambucifolia

Cornus canadensis, past flowering

Abies amabilis

Pedicularis racemosa, beginning to flower.

Vancouveria in fruit.

Chimaphila umbellata, in flower

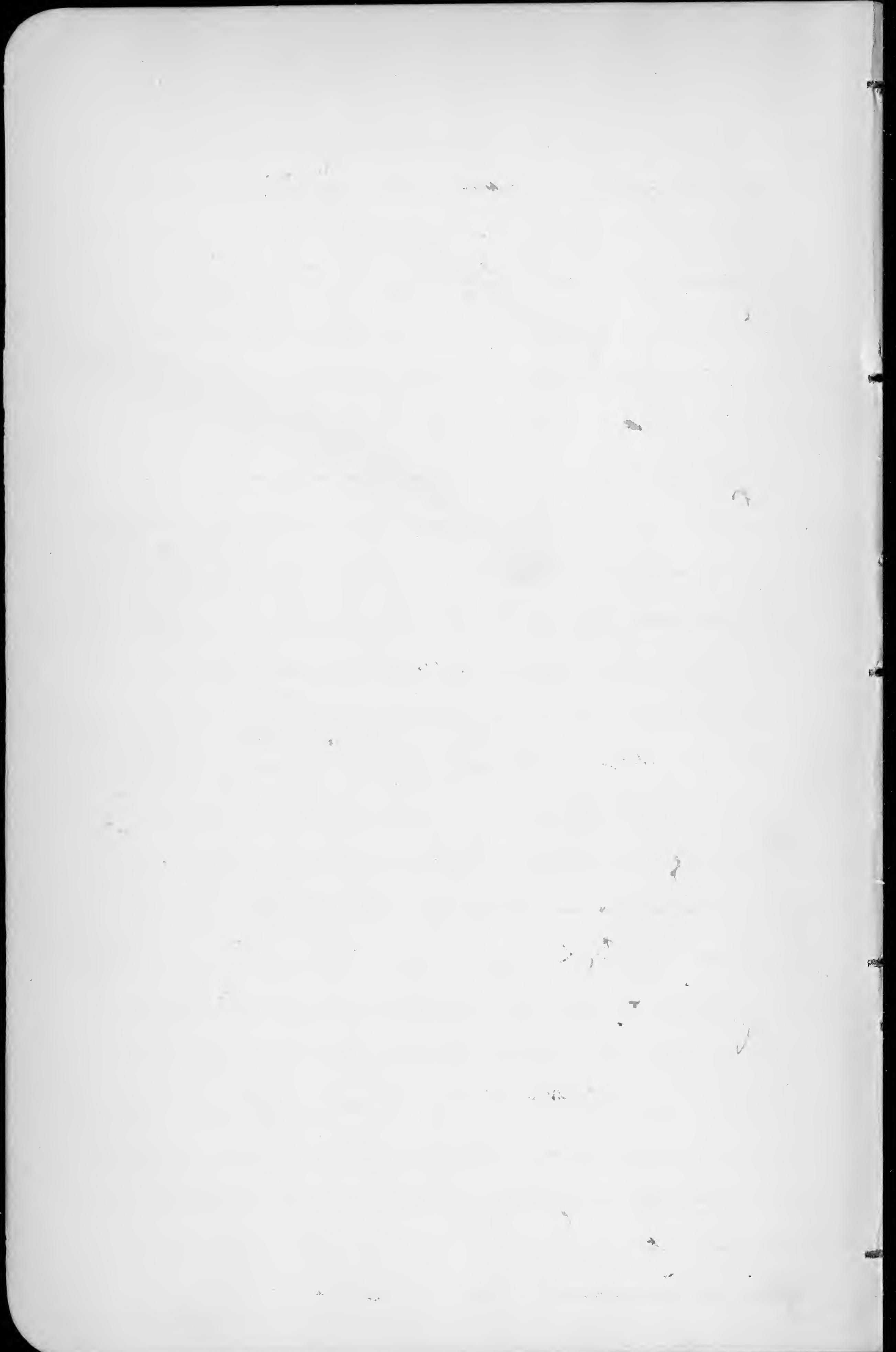
Tapinella brunnifolia

Rhamnus purshiana

Adiantum pedatum

Stratopis amplexifolius? with young fruit

Osmunda cerasiformis



Adenocaulon

Arenaria arvensis, post flowering

Alnus organa

Amelanchier alnifolia } along a stream

Hydrophyllum

Phragmites

Dryopteris

Actaea

Anemone trifolia, post flowering

pedata

Bistortalis

Vaccinium paniculatum, with young fruit.

Lomaria

Covalloliza

in flower

Rubus spectabilis, along a stream, in fruit

Saxifraga? olissima

"

in flower

Rubus parvifolius

"

in fruit

Hydrophyllum

in flower

Lilium columbianum in flower.

Pachystima

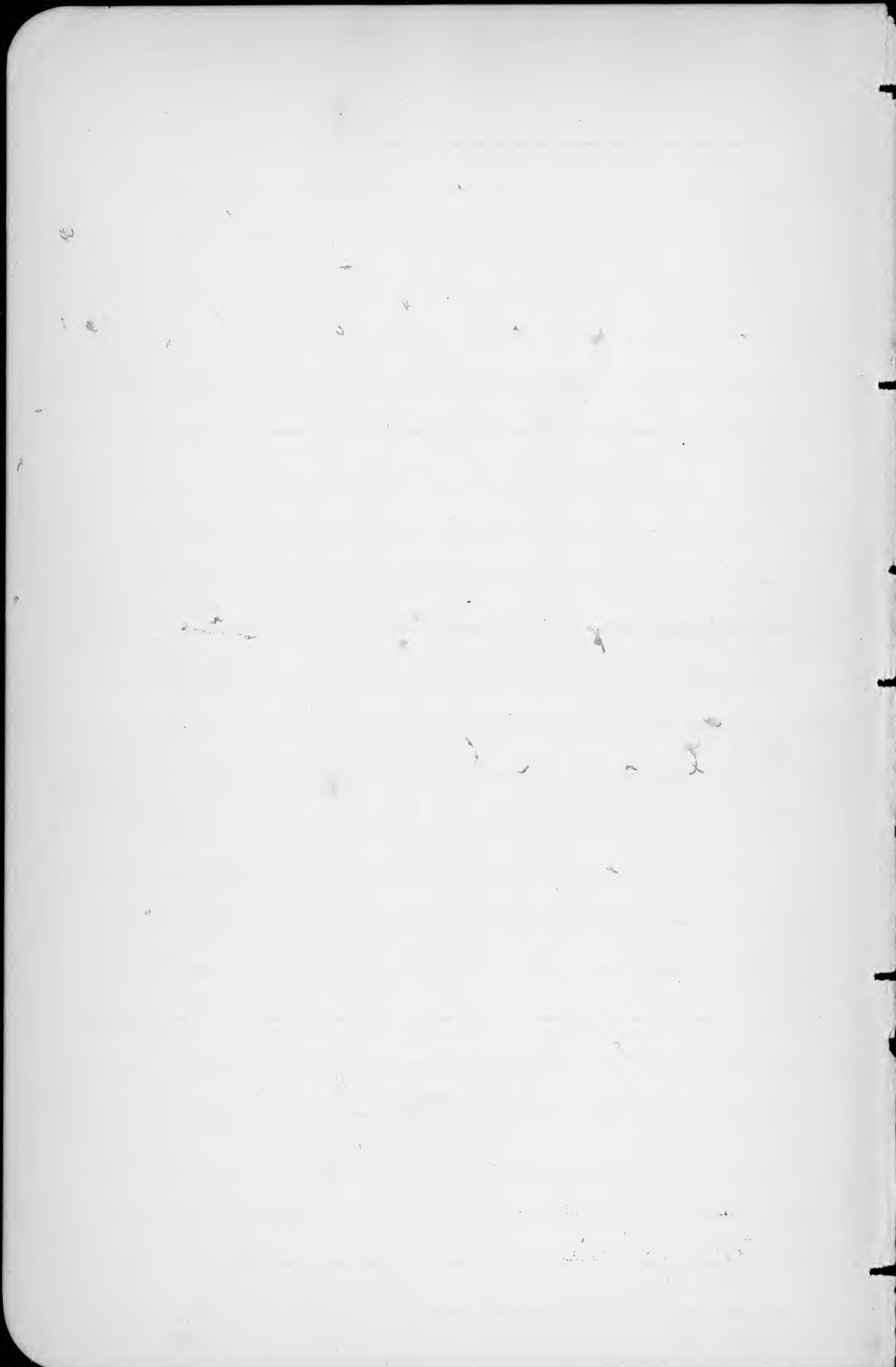
Gaultheria shallon

.. *ovatifolia*

Lupinus

Arctostaphylos uva-ursi.

Pentstemon decumbens



Listea

Pinus monticola

At an elevation probably not 100 feet above the lake we came upon a gently sloping soil of volcanic drift the principal tree of which was

Pinus murrayana, with a small admixture of *Pinus monticola*

Pseudotsuga menziesii

Linga heterophylla, the principal shrub being *Arctostaphylos nevadensis*, with considerable

Vaccinium parvifolium,

Chionophila umbellata, and in spots

Gaultheria shallon. We saw her for

the first time

Vaccinium membranaceum D. C. Dubois

Alnus sinuata

straggles from above

Antennaria marginata

Hieracium albiflorum

Rumex acetosella

Epilobium angustifolium

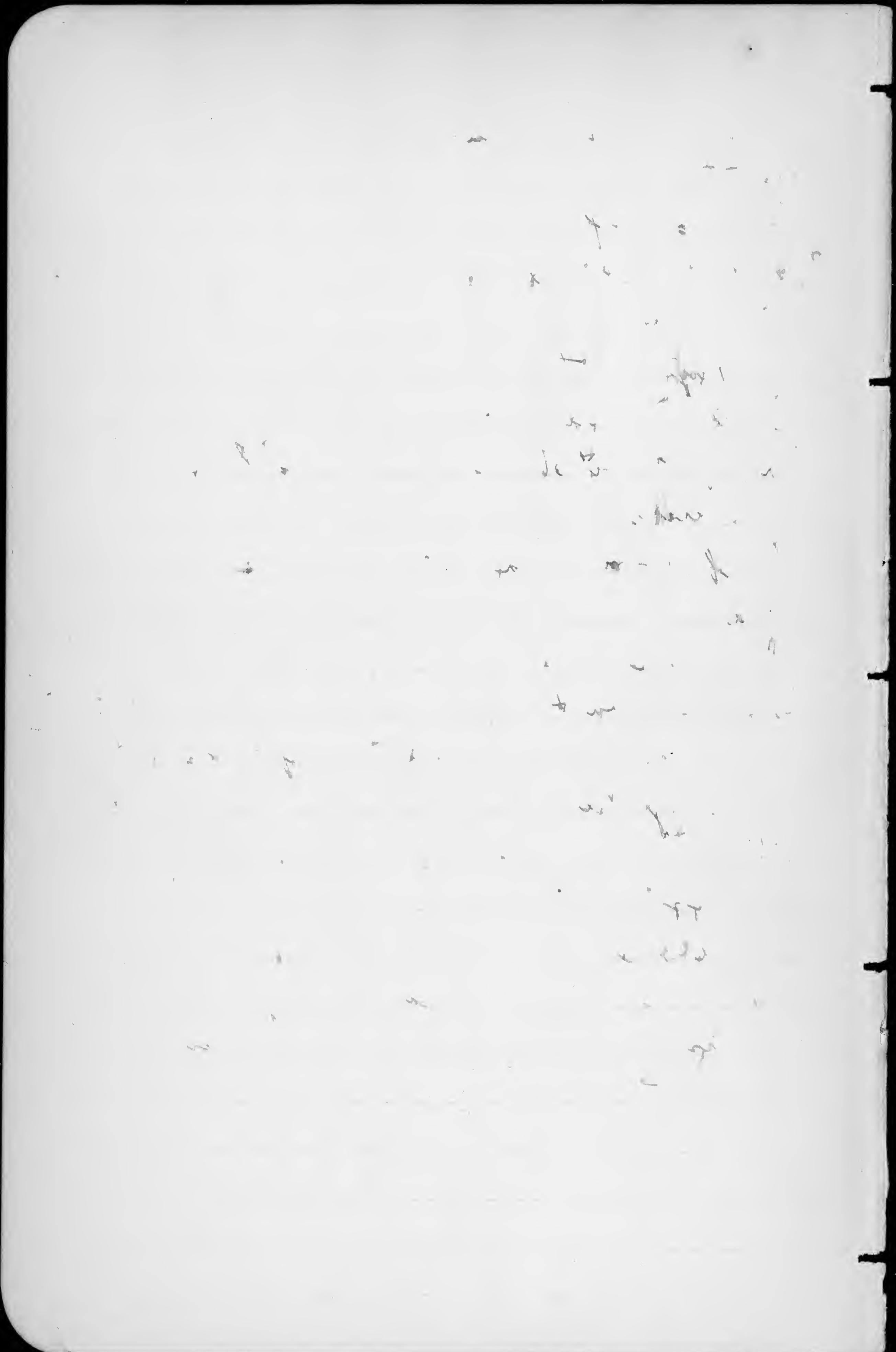
Pyrola secunda.

Crossing of the Kalama.

Menziesia

Along the Kalama

Allospora



Lupinus minimus

Pentstemon

Abies lasiocarpa

Base of Goat Mountain

Abies nobilis

Xerophyllum tenax

Castilleja miniata

Slope of Mount St Helens, on exposed lava

Holodiscus

Cryptogramma acrostichoides

Phlox

Juniperus maura

Along a rivulet in *Abies lasiocarpa* and *P. murrayana*, *Prunus monticola*,

Sambucus cerulea, finely past flowering

Viola glabella, past flowering

Aquilegia formosa in flower

Artemesia

Epilobium in bud.

Veronica ~~aff~~ *scopulifolia*

Magnolia lewisii, smoky in bud

Veratrum viride.

Besides things collected.

On dry ground

Calochortus subalpinus

Polygonum parviflorum

Juncoidea campestris

Junco parvirostris

} Collected

765

766

Pachystima myrsinites

Pteris aquilina lanuginosa

Acer circinatum

Vagnera paniculata

Trolla glabella.

Chimaphila menziesii, under *Abies nobilis*.

Pedicularis racemosa

Encelia

Eriogonum pyrolaeifolium

Fragaria

Luetkea pectinata

Bryanthus empetrifolius

Hiracium gracile

near the lower camp.

Corallorrhiza

Ribes bracteosum

Of these the plant ~~with~~ standing the greatest degree of
aridity is Eriogonum Pyrolaeifolium.

July 19, 1898.

Mount St. Helens

Plants of the lava drift at timber line

Encephalitus collected

Eriogonum pyrolaefolium

Lupinus lyallii Gray, collected yesterday 769

Polygonum

Phlox diffusa ssp. *longistylis* ..

767

Juncus parryi

Agoseris aurantiaca (Hook.) Greene collected yesterday 810

Pedicularis longistylis (C. & R.) St John ..

756

Castilleja coccinea Piper. T. G. R. ..

768

Spraguea

Luetkea pectinata

Pentstemon secundatus new ssp. *mensisii* - like, collected yesterday 774

Achillea millefolium

Poa

, collected

Carex

Elymus?

Trisetum spicatum (L.) Rott. collected

796

Grass

On rocky and somewhat moist slopes

Lupinus

Xerophyllum

Vaccinium membranaceum Greene

Erysimum capitatum (D. C.) Greene collected yesterday 777

Mr. Johnson found
Pulsatilla occidentalis
no specimen

Pentstemon

not like menziesii, coll. you

Spiraea obtusifolia

Gilia multicaulis

Arnica

At base of rocks.

Phyllodoce glanduliflora

785

On rocks

Phyllodoce glanduliflora

782

Juniperus. miana

Cryptogramma

Oxyria

Campanula

Henckelia

Lycopodium, with the two Phyllodoce, coll.

Also

Hépacium albiflorum

Fragaria cuneifolia Nutt. collected 806

Aspidium luctuosa

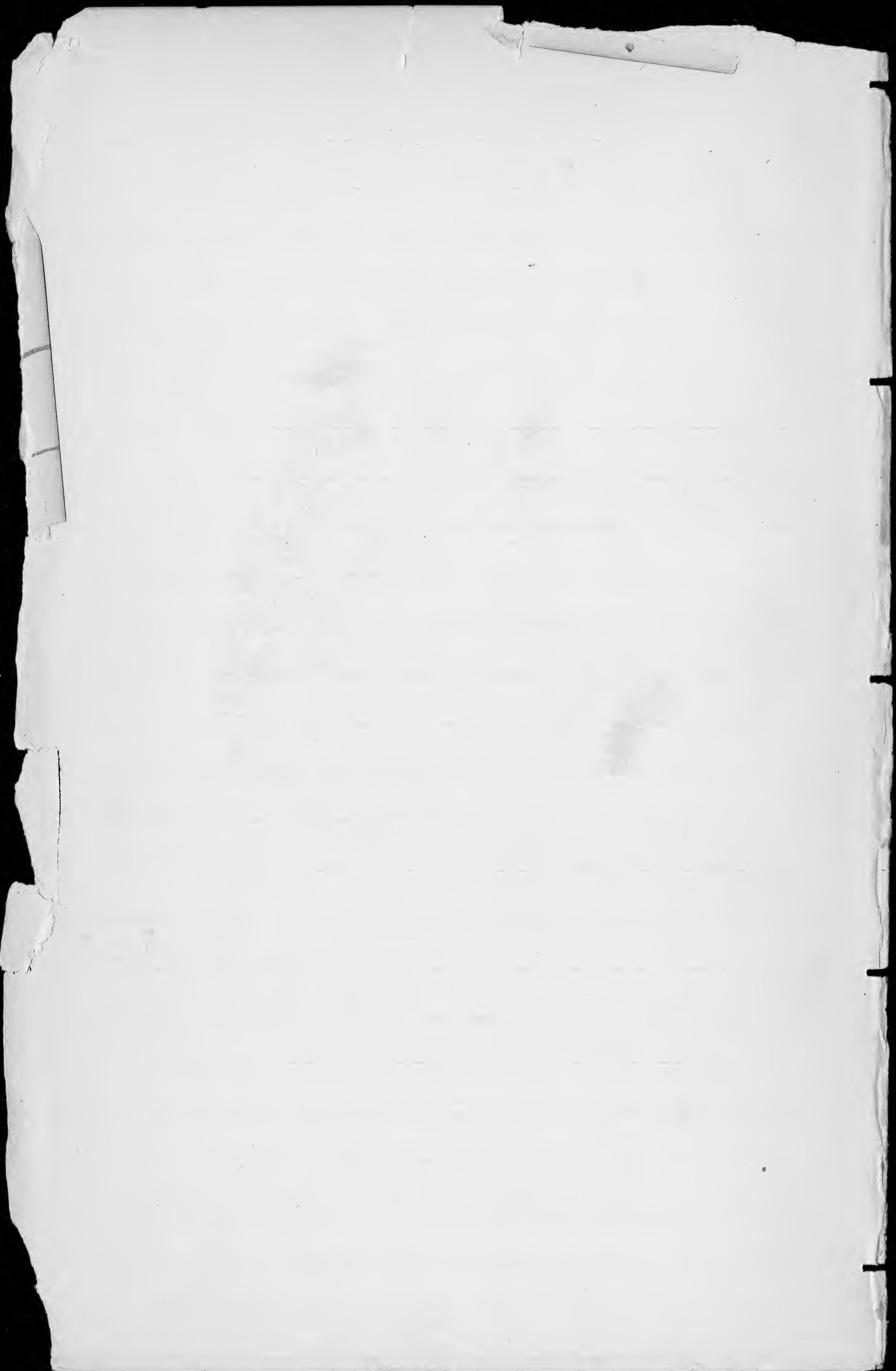
Artemesia media Greene collected

805

Form of Abies lasiocarpa near timber line sometimes as follows:



note naked trunk on up-hill side. This shows where sliding snow has broken off the branches



and then the characteristic lava drift vegetation of timber-line

The shrub going highest up is

Phyllodoce empetriformis, and the next is
Sorbus occidentalis

Above timber-line, ^{and above the lava drift vegetation}, are many places where alpine plants of many kinds might grow, but these sheltered rocky nooks are occupied only by

Saxifraga tolmei; and

Juncus parviflorus, both of which are abundant

The following were seen above the limit of trees, in addition to those just mentioned in the descent

Vaccinium membranaceum

Agoseris aurantiaca, not seen going up

Antennaria alpina

Castilleja

Erythronium

Unknown grass collected to-day

Elymus

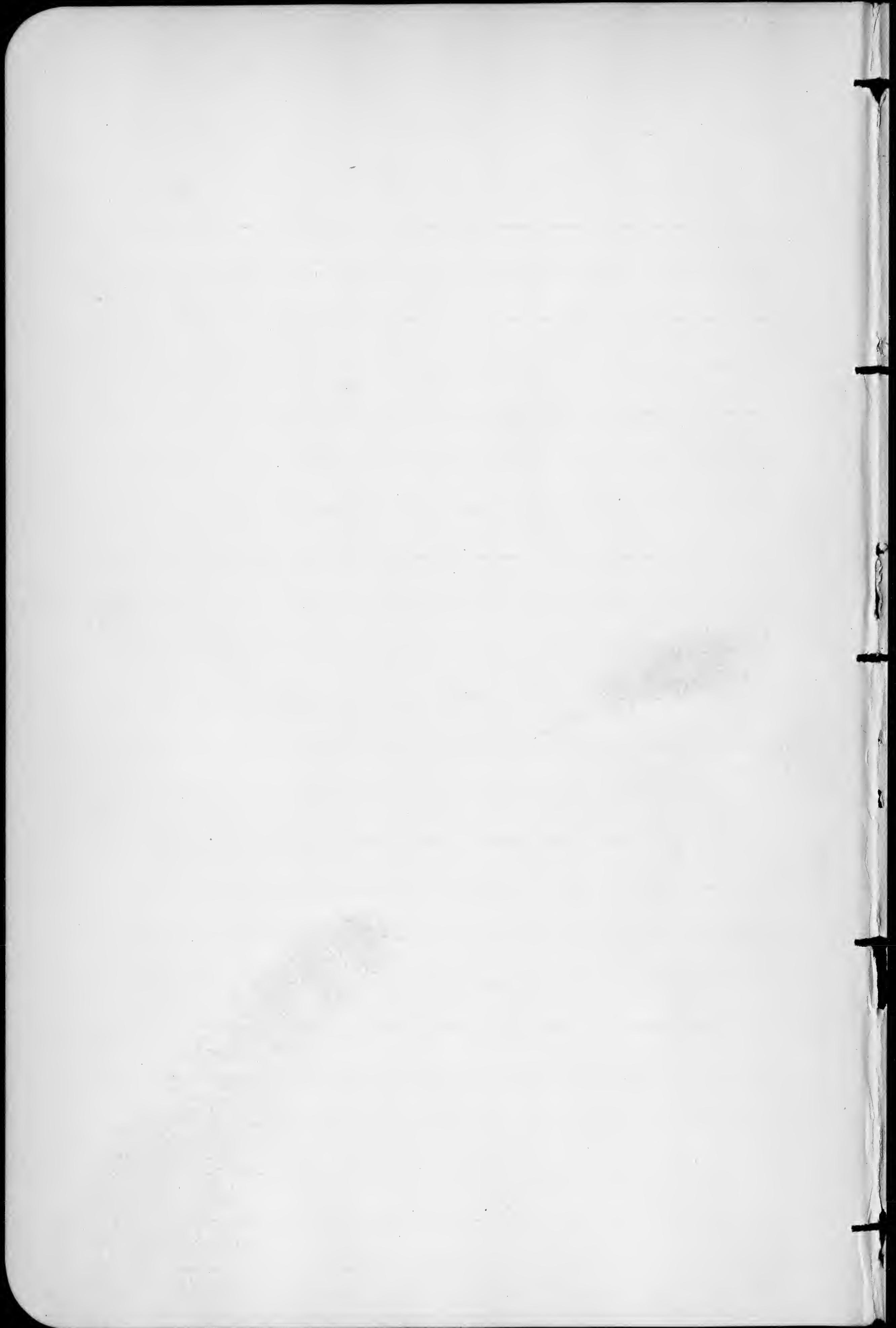
Cryptogramma

Luetkea pectinata.

Penstemon montanus

The trees growing at timber line are

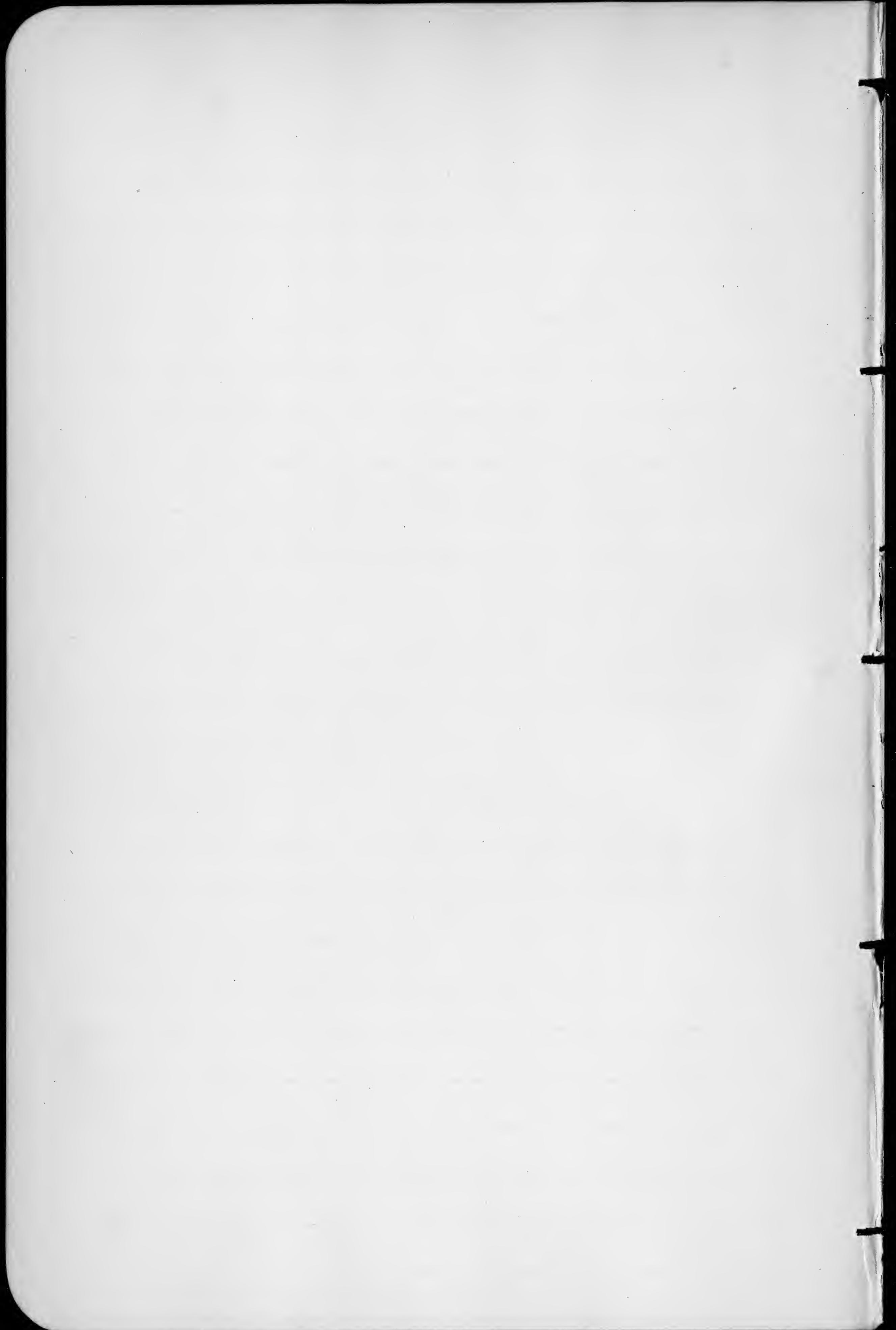
Abies lasiocarpa, and



Pinus murrayana ^{no specimen}, while
Pinus monticola and
Abies nobilis ^{no A. procera Red.} are so close as almost to
reach timber line.

The facts that the flora of Mount St. Helens is very sparse is doubtless due to the youth, geologically speaking, of the mountain. This results in

1. Aridity of the soil
2. Instability of the soil and rocks, due to rapid erosion.
3. Sterility of the soil, and
4. Perhaps to the inability of the mountain to stock itself ^{with alpine} with plants during the glacial period.



July 20, 1896

Mount St. Helens, Skamania Co., Wash.

Made a trip up the mountain southeastward from Three Buttes camp.

Plants in general same as yesterday. The following were seen highest:

Eriogonum pyrolaeifolium

Sphagnum umbellata

Juncus parryi.

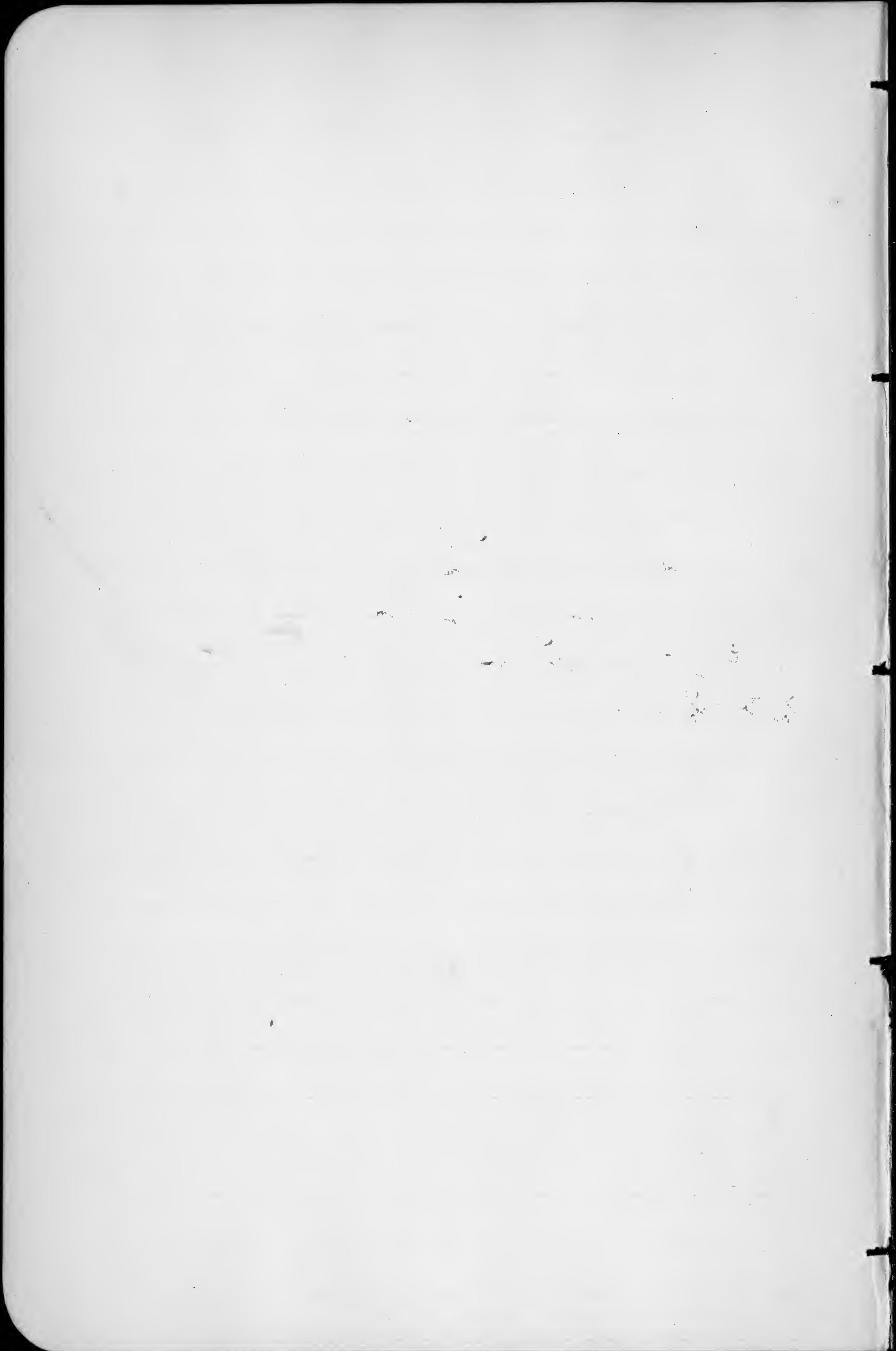
Saxifraga tolmiei was also seen high up.

Achillea millefolium was seen above timber line

Abies nobilis was seen at timber line

Visited a crag or butte about two or three miles ^{southeast} from camp, jutting out from the mountain near its base. The northeast slope is covered with a vegetation chiefly of *Phyllocladus empetrifolius*, and it may therefore be called "Heather Butte".

On slopes having reached a ~~considerably~~ considerable degree of stability and fed by a sufficient amount of snow water to keep the ground moist all summer, *Luetkea pectinata* and *Bryum Phyllocladus empetrifolius* take an early hold and the latter especially forms humus rapidly. These are apt to be followed by



Xerophyllum tenax
Vaccinium membranaceum,
Sorbus occidentalis, and other shrubs,
if the elevation is not too high for them.
This is the case on Heather Butte.

A Lupinus not seen before was col-
lected ~~in~~ open spots of the heather her.

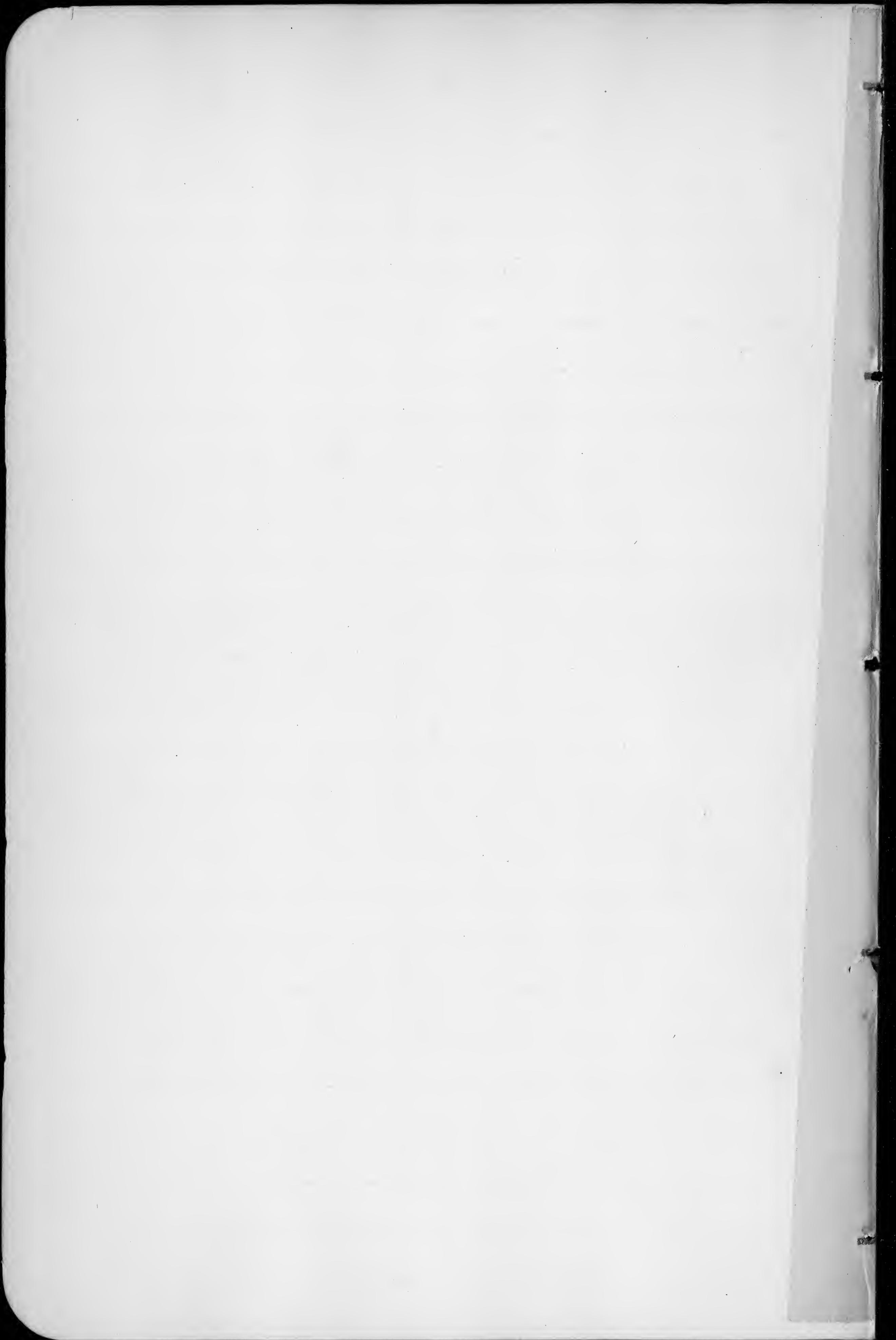
On the way back to camp, at the
base of the lava flows

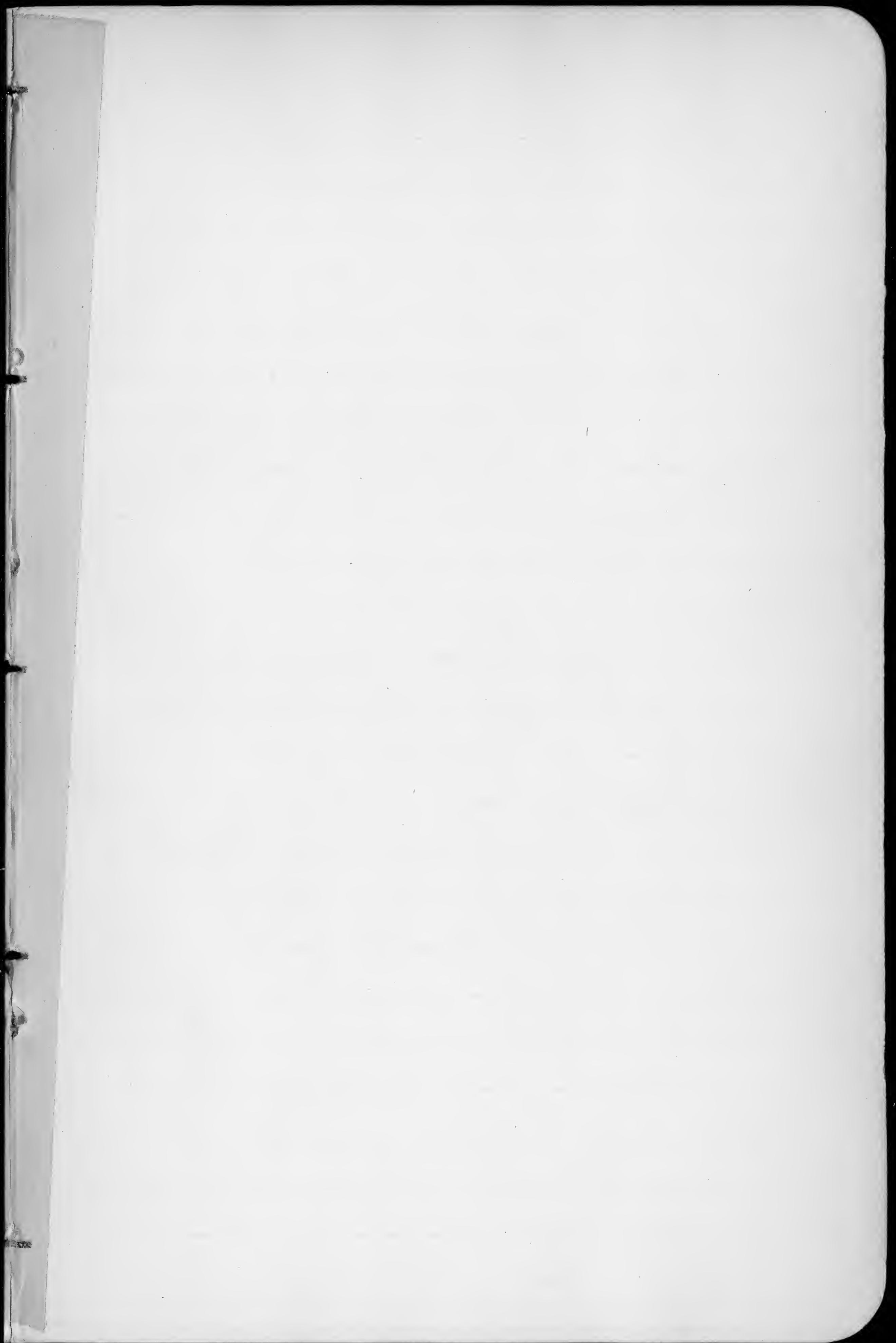
Abies amabilis

Clintonia uniflora

Erythronium, sometimes $3\frac{1}{2}$ inches from
tip to tip of extended petals.

Abies lasiocarpa 8 ft. $3\frac{1}{4}$ in circumference,
about 70 feet high and top broken off at
8 inches.







July 27, 1895.

Salem, Oregon.

Arrived from Portland last night. Saw Mr. Minto. This morning saw Mr. Minto and then drove over to Judge Wallis at Madley. In the afternoon drove back, saw Captain Ormsby and Mr. Davenport.

Between Madley and Salem saw the following trees and shrubs.

Fraxinus garryana

Pseudotsuga menziesii

Acer macrophyllum (planted?)

Salix nuttallii

Corylus californica

Rosa pisocarpa

Rosa macrocarpa

Spirea douglasii

Holodiscus triafolius

Cataegus rivularis - douglasii

Fraxinus ornata

Pyrus rivularis

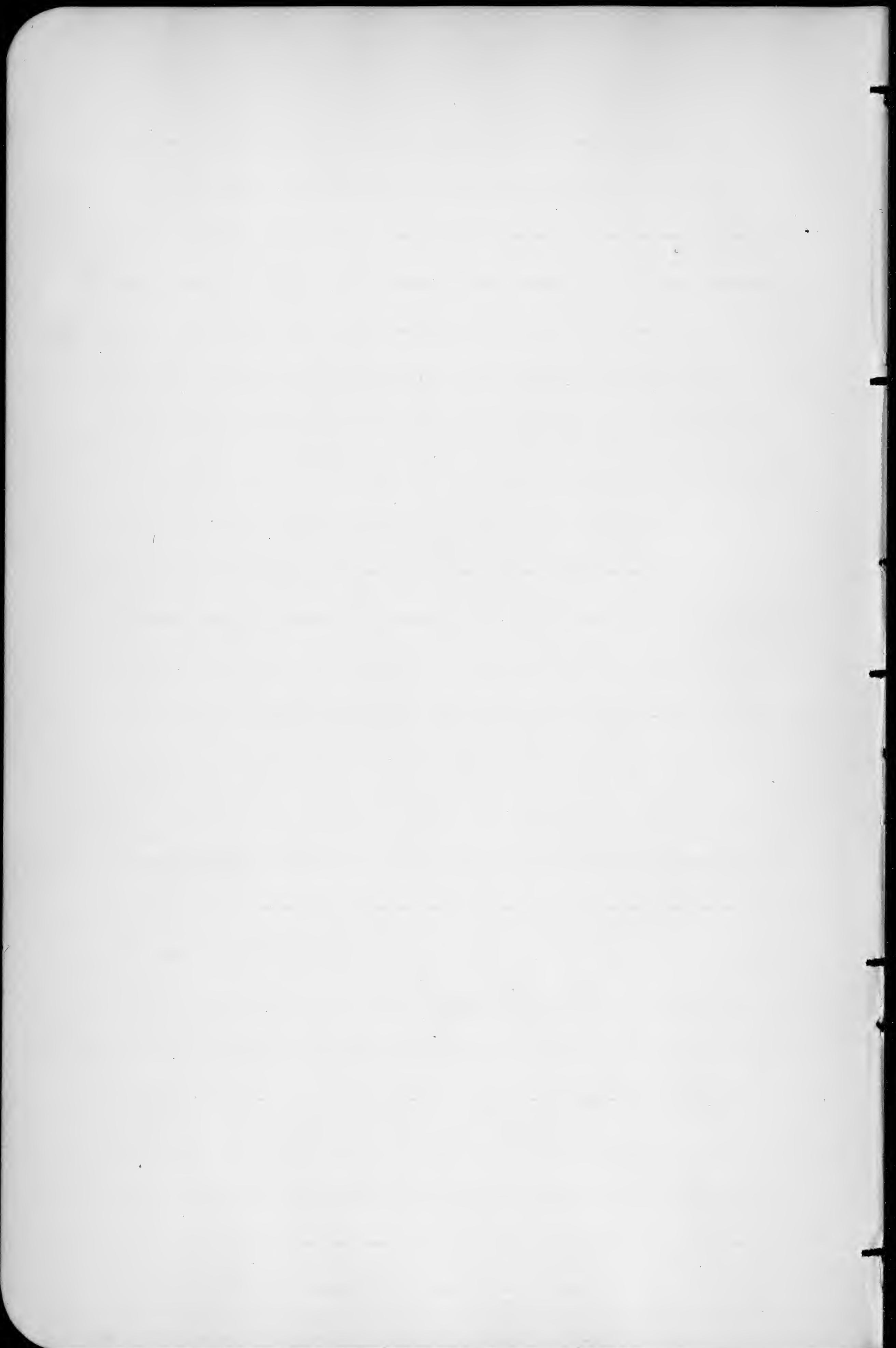
Ceanothus sanguineus, ^{*} only a little

Rubus lasiococcus

.. *vitifolius*

Acer circinatum

Amelanchier alnifolia



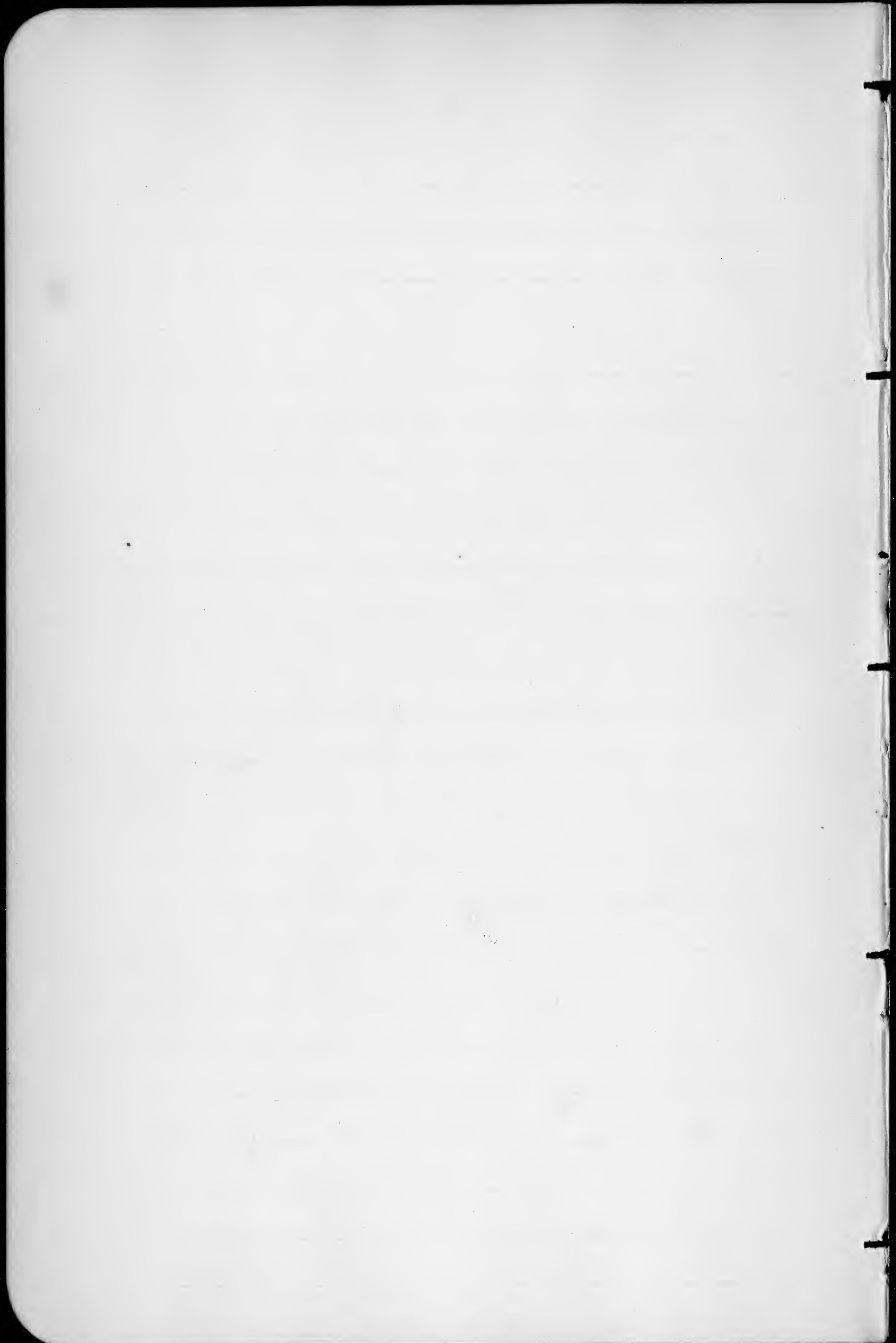
Rhamnus pusiana.

In Judge Waldo's buckleberry patch, collected

Vaccinium

at Salem stopped at the Salem Hotel.

Left at night for Eugene.



July 28, 1895.

Eugene, Oregon.

Arrived late last night. Up to 3 P.M. engaged in buying a saddle horse and a packhorse.

The trees and shrubs seen in the vicinity of Eugene are as follows:

Pseudotsuga menziesii, commonest tree except

Pinus ponderosa, abundant in places

Abies grandis

Fraxinus americana, most abundant tree

Acer macrophyllum

Taxus occidentalis

Populus trichocarpa, along streams

Crataegus douglasii = more or less

Salix populinifolia, along streams, large tree

Osmunda cinnamomea

Spiraea douglasii

Rhus diversiloba, abundant

Crataegus mollis

Acer circinatum

Philadelphus lewisii

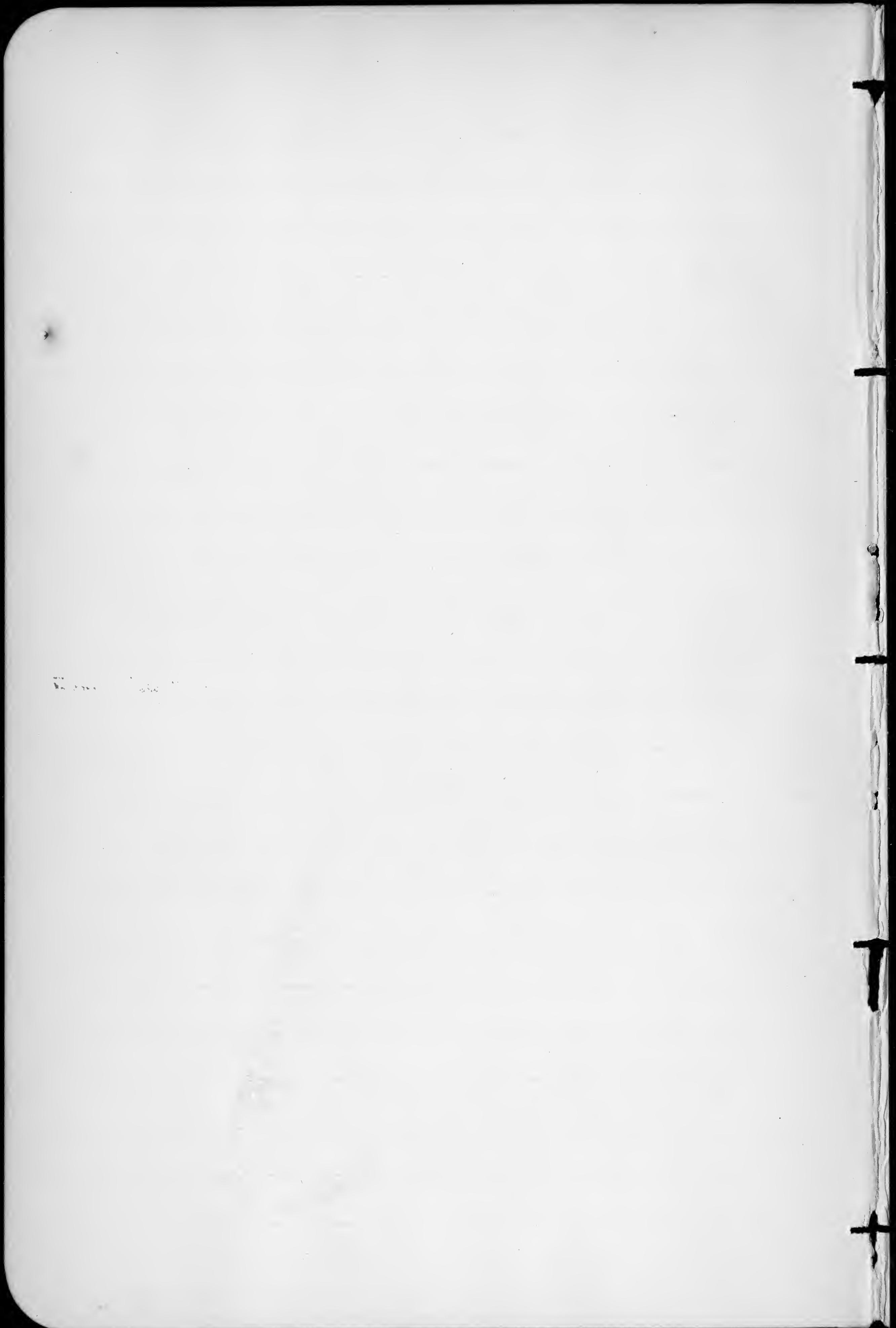
Rosa pisocarpa, abundant along roadsides.

.. *macrocarpa*, ..

Sambucus glauca

Bedelia agrifolium

Rubus lasiococcus



Many dead specimens of Eriogonum pyrolaefolium, their roots partially or wholly exposed. This on pumice drift slopes, showing unusual surface erosion.

At least 1000 feet above the last trees, on an open southwest slope, the vegetation of the lower ~~lower~~ lava drift slopes consisting of only Eriogonum pyrolaefolium Juncus parryi.

Spraguea umbellata, ~~and an occasional tuft of flowerless grass~~, I found the first Collomia debilis, collected, and not found in ⁴²⁵ Saxifraga tolmei, collected. 809

The plant growing next highest to the above five is

Juncoides parviflorum

The next are

Lupinus minimus

Polygonum

Agoseris

Hieracium gracile

Fragaria

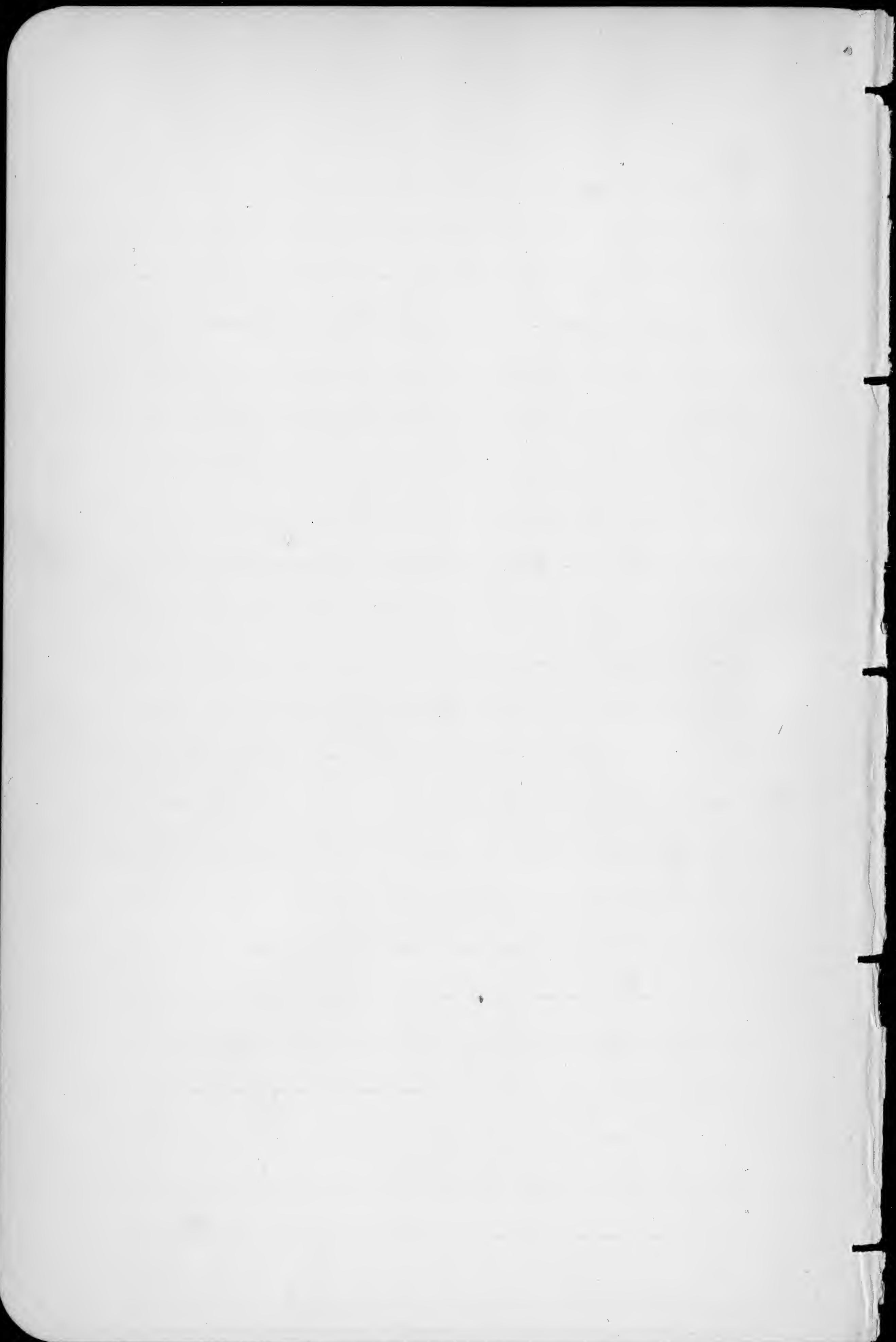
Poa

Carex spectabilis ^{Dewey} ^{July 20} collected to-day 823

Carex alpina

Pentstemon

menziesii-like



Rubus vitifolius, probably.
Holodiscus ariaefolius
Ceanothus sanguineus
Salix nuttallii
Corylus californica, very common
Ribes sanguineum
Rosa gymnocarpa
Rhamnus purshiana
Amelanchier alnifolia
Ribes atropurpureum
Crataegus sanguinea?
Salix velutina
" *discoloroides*? probably *S. nuttallii* or something like it
Symphoricarpos
Pyrus rivularis
Ceanothus cuneatus

Amos D. Hyland, two dozen copies of the first notice

July 29, 1896.

Probably Lowell P. O. (Highlands), Oregon.
Set out for the mountains this morning.

Stopped at Mr. Highlands, twenty miles.

Saw additional to trees and shrubs
of yesterday

Ophulaster

Alnus oblongifolia

Prunus penssylvanica

Libocedrus decurrens

At *Arbutus menziesii*

At and near the cemetery at Pleasant Hill

Cytisus scoparius, escaped from the cemetery.

At the Trent sawmills, four miles below Mr. Highlands

Ribes lobbii

At the crossing of the Willamette, about a
mile below Mr. Highlands

Thuja plicata

Corvus cornix

Taxus brevifolia

Alnus oblonga

Gastanthera dryophylla, 4 m. x 12 ft.

Gaultheria shallon

South slope of hills at Mr. Highlands partly
bare, with scattered oaks and Douglas spruce,
north slope densely wooded with coniferous
chiefly Douglas spruce.

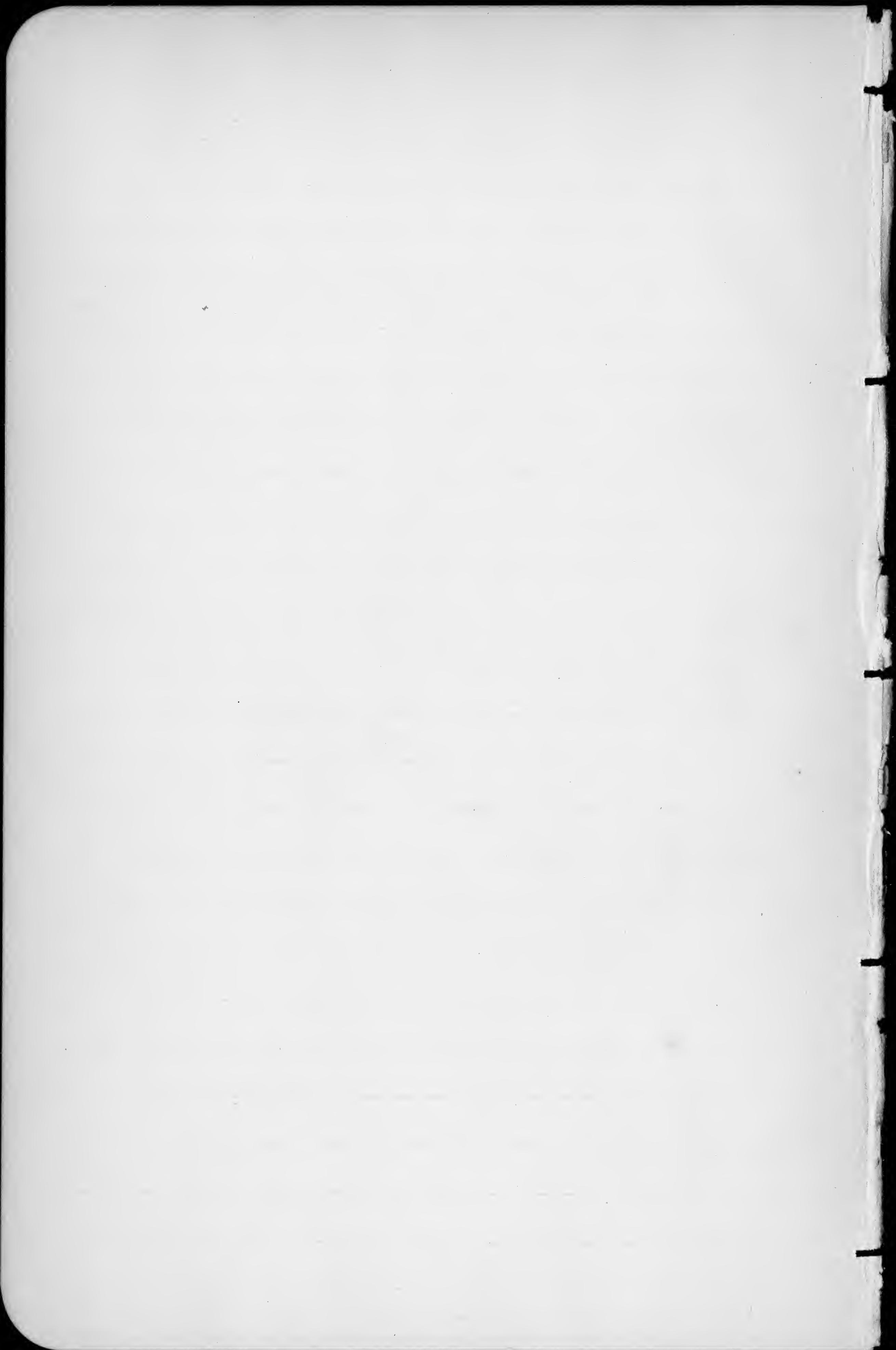
The sleet break occurs on old burns where the area has been again seeded to timber, mostly red fir, very closely. The trees may be 100 or even 200 feet high after 15 or 20 years. Areas of many acres, being very close, very slender, and very tall, after becoming weighted with snow and sleet in winter, begin to lean and finally with additional snow the whole mass goes down gradually. Make no loud noise. Common all about. Only on slopes, and always fall down hill, trees all killed.

Detroit, Oregon, Aug. 26, 1898.

Came down to this place from Hants Cove to-day, passing Peneliction Lake at 4100 feet and striking the Minto Trail at about 2500 ft.

Detroit near Gates, Oregon, Aug. 27, 1898.

Came down from Detroit to-day, and camped at Mr. Harness, about a mile from Gates. Expect to start for Portland by rail to-morrow.



July 30, 1896.

Hazeldell, Lane Co. Oregon

Elevation probably not over 1500 feet.

Left Mr. Aylands in the morning and stopped for lunch at Blakeley's (now occupied by Mr. Wilhelm), 12 miles. In the afternoon went on to Hazeldell post-office, 14 miles further. Found the two Applegat's there awaiting me.

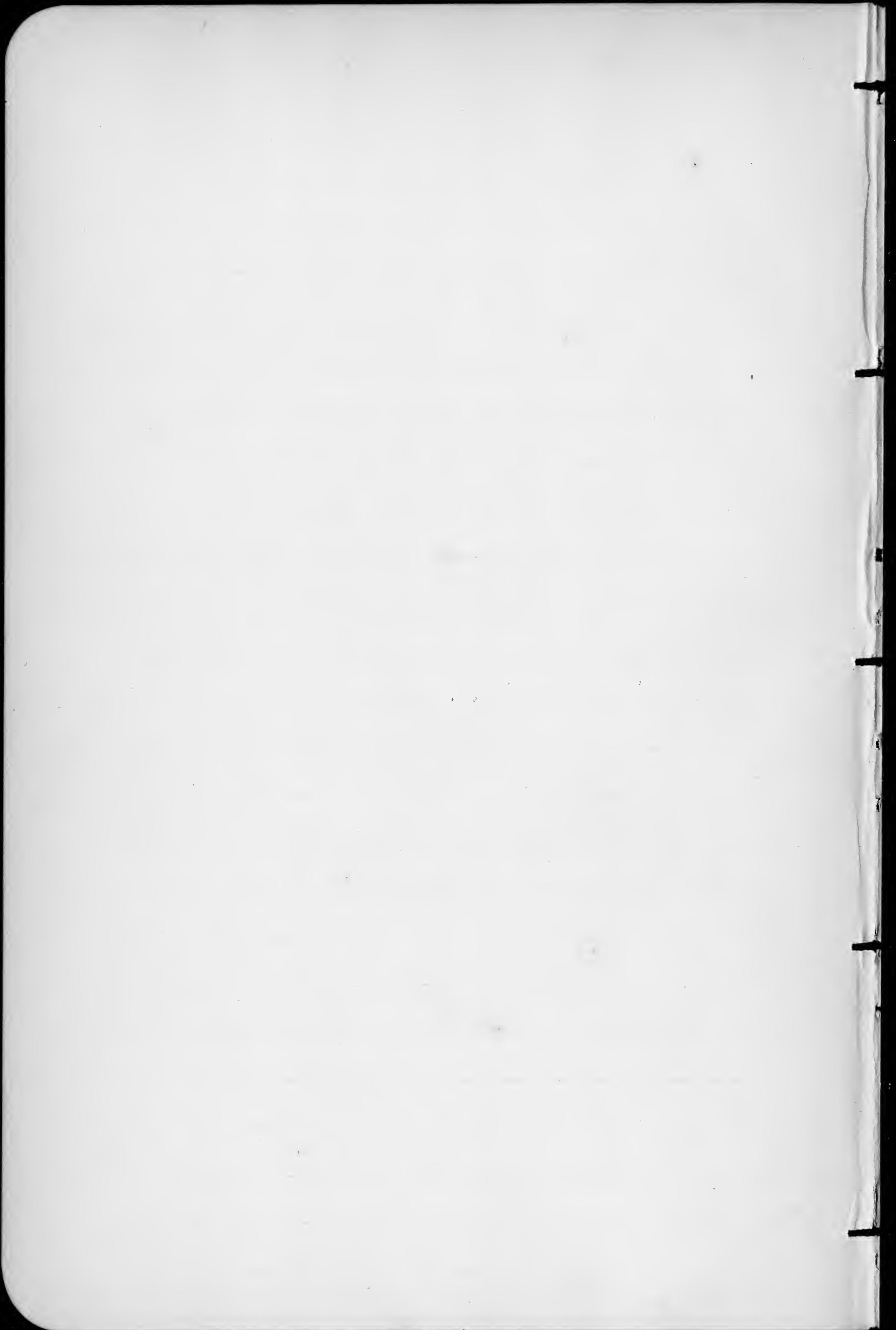
In the forenoon saw the following trees and shrubs.

- ✓ *Pseudotsuga menziesii*
- ✓ *Pinus plicata*
- ✓ *Pinus ponderosa*, very little
- ✓ *Libocedrus decurrens*
- ✓ *Acer macrophyllum*
- ✓ *Taraxacum brevifolium*
- ✓ *Fraxinus organa*
- ✓ *Douglasia gonyantha*
- ✓ *Arbutus menziesii*, 12 to 18 in. diam. ^{uncommon} 430 to 40 ft high not
- ✓ *Salix populinifolia*, along the river only
- ✓ *Populus trichocarpa*, in the bottoms
- ✓ *Rhamnus purshiana*
- ✓ *Crataegus rivularis*
- ✓ *Abies grandis*
- ✓ *Prunus mollis*
- ✓ *Castanopsis chrysophylla*
- ✓ *Alnus organa*
- ✓ .. *oblongifolia*
- ✓ *Coronis nuttallii*
- ✓ *Salix nuttallii*
- ✓ *Sambucus glauca*

Cytisus scoparius, escaped

- ✓ *Ribes lobbii*
- ✓ *Gaultheria shallon*, abundant.
- ✓ *Lonicera rosea*
.. *hispida*

- ✓ *Osmaronia cerasiformis*
- ✓ *Rhus diversiloba*, 30 to 50 ft high on Pseudotangra
- ✓ *Acer circinatum*
- ✓ *Philadelphus lewisii*
 - Rosa macrocarpa*
 - ✓ .. *gymnocarpa*
- ✓ *Berberis aquifolium*
- ✓ *Rubus lasiococcus*
- ✓ .. *vitifolius*
- ✓ *Holodiscus ariaefolius*
- ✓ *Ceanothus sanguineus*
- ✓ .. *integerrimus*
- ✓ *Vaccinium parvifolium*
- ✓ *Rubus parviflorus*
- ✓ .. *semperfervens*, ^{just beginning to fruit} escaped from cultivation
- ✓ *Robinia pseudoacacia*, one tree by the roadside, ^{escaped}
- ✓ *Tsuga heterophylla*, occasional
- ✓ *Ceanothus velutinus*
- ✓ *Corylus californica*, the most abundant underbrush
- ✓ *Ribes sanguineum*
- ✓ *Amelanchier alnifolia*
 - Ribes atropurpureum*
- ✓ *Salix velutina*
- ✓ *Symphoricarpos*^{deciduous}
- ✓ *Ophulaster*



July 31, 1895.

Haydell, Lane Co., Oregon.

Stayed in camp in the morning. Went down to Mr. McClane's in the afternoon.

Aug. 1, 1895

High Prairie camp.

Went from Haydell up to Kiteon Spring in the forenoon, 6 miles and return.

In the afternoon broke camp and started for Grasshopper Mountain, camping at the east end of High Prairie, 8 miles.

Elevation of High Prairie about 2500 feet

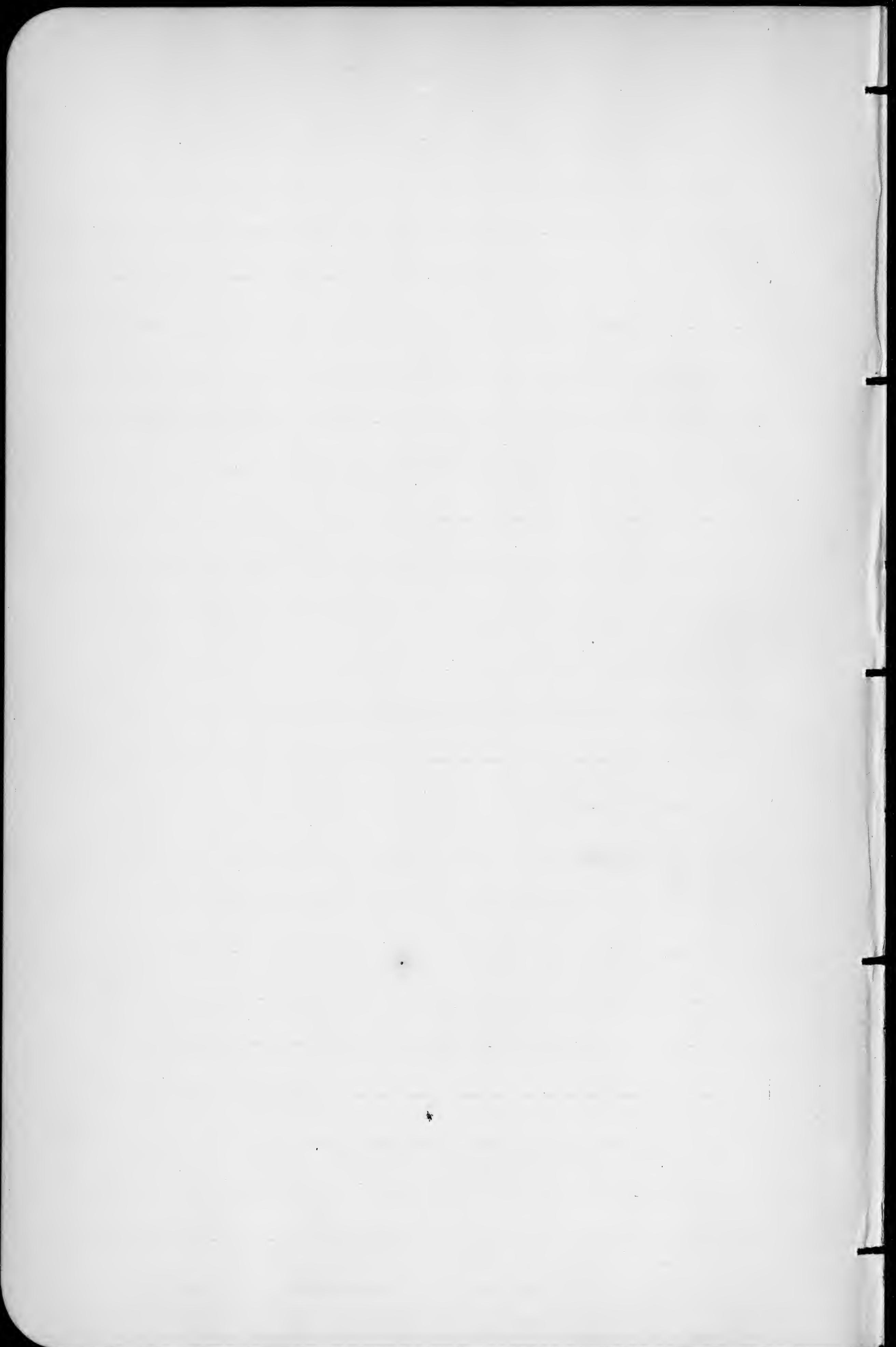
~~Lowell Camp~~ Brook Meadow. August 2, 1895.

Went from High Prairie over into the North Fork (of the Middle Fork of the Willamette) valley and camped at Lowell Camp, foot of Grasshopper Mountain. Varied in elevation from about 2500 feet at High Prairie to 3000 feet at the Divide, and 2500 feet at Lowell Camp. Traveled about 18 miles.

~~Lowell Camp~~ Brook Meadow

, Aug. 3, 1895.

Went up Grasshopper Mountain and return, about 8 miles. First timberless ridge 3500 ft, lower edge of the bald 4500 feet, summit of the bald 5500 ft.



Brody Meadow Aug. 4, 1898.
~~Lowell Camp~~ (by proxy).

Traveled about 8 miles up the North Fork bottom and return, reaching an elevation of about 2800 feet. I myself stayed all night at a deer lick.

Grasshopper Mountain, Aug. 5.

Came up from camp to the mountain this morning, about 3 miles. Made a trip on foot over the east to the north slope.

Camp two miles west of Juniper Meadows, August 6. Came over from Grasshopper Mountain to-day, about 12 miles. Gap between Grasshopper Mountain 5000 feet. Chockeany Mountain 5000 feet. Choke-
~~erry~~ ^{Box} ~~Gap~~ ^{Gap on} Swamp 3800 feet. Juniper Meadows 4800 feet.

Moved over to this place and Juniper Meadows, August 7. Stayed near camp all day, botanizing and writing up notes.

J. C. Brattain

Brock Meadow, August 8, 1898.
Reached this place from Dunn Meadows to-day,
about 17 miles.

High Prairie, August 9, 1898.
Reached this place from Brock Meadow to-day,
about 18 miles.

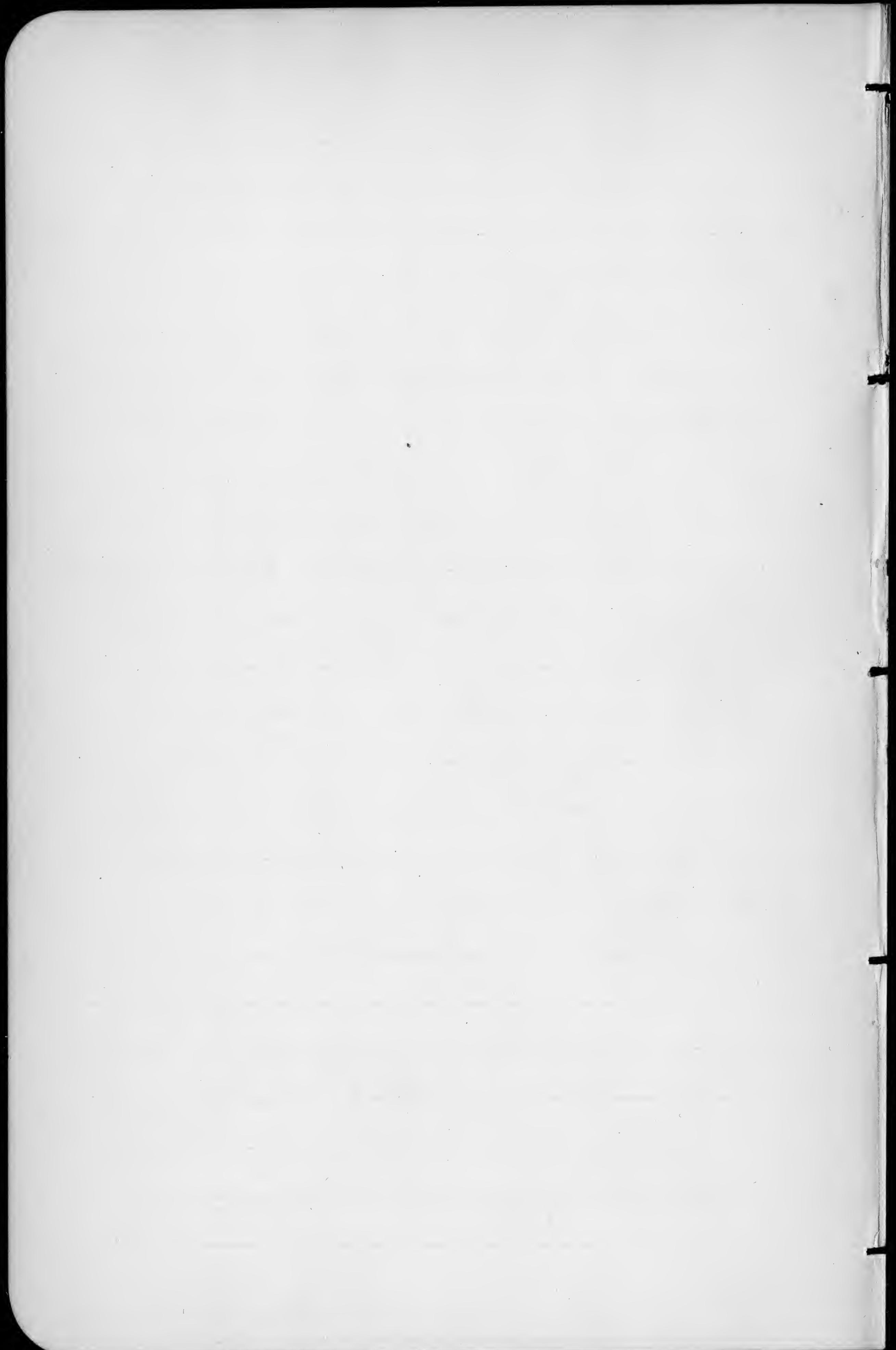
Lowell (Hylands) August 10, 1898.
Reached this place from High Prairie to-day, about
30 miles.

Springfield, August 11, 1898.
Reached this place from Lowell to-day, about
15 miles, and camped at Mr. Brattain's farm,
about half a mile east of the city.

Springfield, August 12, 1898.
Spent the day purchasing horses.

Springfield, August 13, 1898.
Spent the day completing preparations for
our start.

Anderson Station, Aug. August 14, 1898
Left Springfield at 2 P.M. and came to this point, 16 miles.



Wyckoff Station, Aug. 15, 1898.

Reached this point from Anderson Station to-day, 20 miles.

Foley Springs, Aug. 16, 1898.

Came from Wyckoff Station to-day, about 20 miles.

Foley Springs ^{dry} Aug. 17, 1898.

Ascended the mountain back of Foley Springs, following the ridge east of the trail on the way up, the trail coming down. Foley Springs 1600 feet. Change from Douglas spruce to black hemlock 4000 to 4500 feet. Summit of mountain (Horse Pasture) 5500 ft.

Lost River Station (Wards round) ^{dry} Aug. 18, 1898.

Came up from Foley Springs in the afternoon, about 14 miles. Met Mr. A. S. Powers of McKenzie Bridge. Lost River Station about 2500 ft.

Cold Spring, Cook Co. ^{dry}, Aug. 19, 1898.

Reached here from Lost River Station to-day, 27 miles. Black hemlocks ^{4000 to} 4500; shoulder of summit 4700; summit 5000. Cold Spring 3400.

In Clear Lake trees measured respectively 35 feet,
the top ending 6 ft. below the surface; and 34 feet,
the top ending $1\frac{1}{2}$ feet below the surface. Stumps
on the sand beach measured 18 inches, with 130
annual rings; and 27 $\frac{1}{2}$ inches, with 243 rings.
No erect stumps above surface. Besides plants col-
lected and noted on shore, *Spirogyra* formed bright
green mats in smaller or larger areas on
the bottom.

Graham's ranch Aug. 20, 1898.

Went from Cold Spring to Sisters P.O., and then up to Graham's, about 11 miles.

Fish Lake

August 21, 1898.

Came over from Graham's to Fish Lake, 24 miles, lunching at Big Lake. Graham's 3400 feet. Pinus murrayana coming in at 3800, black hemlock and blue fir at 4200. Summit about 4500. Beginning of solid Pseudotsuga on west slope 4000. Yellow pine occasional at 3700. Fish Lake 3400.

August 22, 1898

Hensley Meadows,

In the morning went to Clear Lake 2½ miles, and return.

In the afternoon went from Fish Lake to this point, accompanied by Mr. E. Hennessy, Gates, Oregon. Distance in afternoon 12 miles. At 3800 feet passed through a dry area covered by Pinus murrayana, but at the same elevation struck into the magnificent heavy forest again.

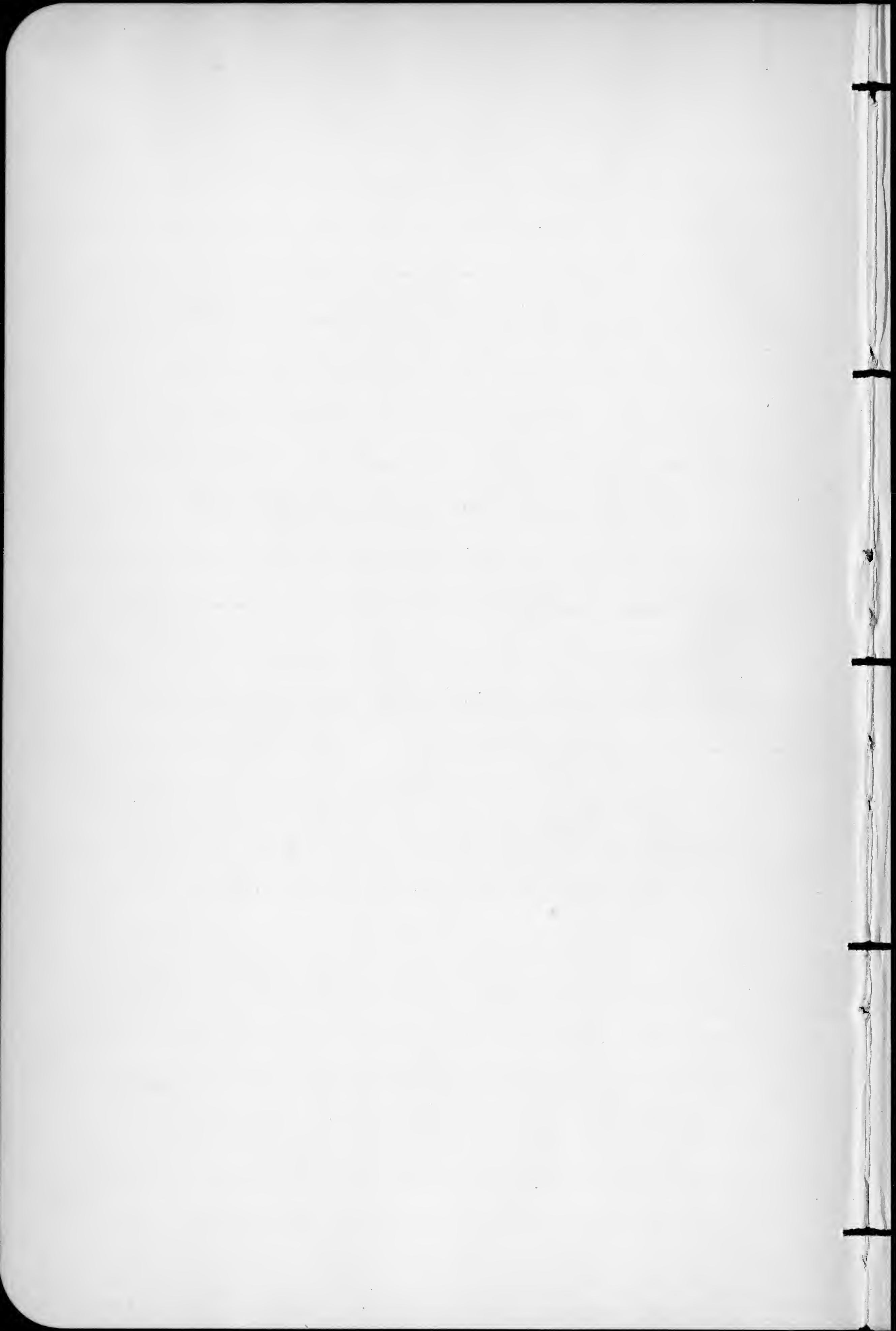
Elevation of Hensley Meadows 3700.

The Metolius Trail, an old trail, originally an Indian trail, connecting the Indian settlements on the Warm Springs Indian Reservation with the Wallowa Trail at a point near the west end of Marion Lake. It is now partly blazed, ^{and is considerably used by sheepmen and others} ~~in addition to the Indians and the Cascades~~ about five miles south of Mount Jefferson, at an elevation of about 6000 feet.

Ann Lake Aug. 23.

Came through the woods without trail from Hensley Meadows and struck the Minto Trail on the south margin of the Lake. Distance about 1/2 miles. Most of the journey through longhole pine mixed with black hemlock and silver pine. Elevation of Ann Lake 4100 ft.

Point on Metolias Trail, about 1/2 mile west of summit, Aug 24, 1898. In the forenoon started out eastward on the Minto Trail and just before reaching Marion Lake took the left hand trail. Up to 5500 ft, Pinus murrayana with Tsuga mertensiana Pinus monticola, Abies lasiocarpa, and A. amabilis, with occasional A. nobilis and Pinus albicaulis. Above on sheltered west slopes, where snow was evidently heavy, P. murrayana disappeared, and Tsuga mertensiana became more abundant. At our nooning-place, 5800 ft., the forest consisted of black hemlock with considerable Abies amabilis, with an underbrush of Vaccinium cespitosum, Cassiope, Phyllodoce empetrifolia, Sorbus parvifolia, Vaccinium membranaceum, and a great abundance of Luetkea. In the afternoon looked over the country to the



north along the Cascade divide as far as Hunt's Cove and return, on foot. About 6 miles by horse

Hunt's Cove, Marion County, Oregon, Aug. 25, 1898.
Came over to this point, about 4 miles, to-day, and camped at the uppermost meadow watered by springs. Examined the lateral divides to the westward, overlooking Bingham Basin and Grizzly Basin, Minto mountain lying between. The timber on all these divides is badly burned, probably three-fourths being gone.

Hunt's Cove, August 26, 1898.

Made the ascent of Mount Jefferson to-day. Elevation of camp 5500 ft. The timber up the lower slopes of Mount Jefferson consists chiefly of Tsuga mertensiana, with some Abies amabilis, and an occasional Abies lasiocarpa. At 7000 feet Tsuga mertensiana ceased, the remaining trees being Pinus albicaulis and Abies lasiocarpa.

The plants above this point were.

Juniperus monosperma

Lupinus

Polygonum newberryi

Penstemon martindalei

Luetkea pectinata.

Above timberline occurred those marked with a
✓ (list incomplete).

Above 9000 feet occurred

Hulsea nana

Saxifraga tolmiei

Oxyria digyna

Summit of the mountain below the ~~sap~~ rock, which
was not climbed 10200 feet.

Eriogonum pyrolaefolium

Sitanion sitanion

Phyllodoce empetriformis
.. *glanduliflora*.

Antennaria

Poa

juncoides glabratum

Vaccinium scoparium

✓ *Pentstemon davidsonii*.

Carpe trispicata)

✓ *Carpe breweri*.

✓ *Saxifraga tolmei*

✓ *Hulsea*

✓ *Oxygentha digyna*.

Trisetum

Cardamine pachyphylla.

Eriogonum, small, shubby, yellow.

Juncus parviflora.

Aster (procumbens)

Vaccinium (espiatoides)

Juncus parviflorus

Spraguea umbellata

Hieracium gracile

Juncus subuliflorus

Timberline was at 5100 feet, the trees consisting of *Pinus albicaulis*.

Heads in Hunts Cove, D. W. Shaffer, Sisters, Oregon.

Rent Lumber Manufacturing Company. Handle mostly "fir" (Douglas spruce), "red cedar", (*Thuja plicata*), "white cedar" (*Libocedrus decurrens*), oak, maple, ash; no yellow pine, dogwood, nor alder.

Mill capacity 20,000 per day; yearly cut about 2,000,000 ft. b.m.

First cause of fires is carelessness of campers, including travelers and hunters. From "slashing brush", in making clearings.

"Sleet break" of the "fir" tree. ~~Often~~ Sometimes burned for clearings. Make awful fires. Trees 200 ft. high, many acres go down. Lumbering operations. Brush accidentally fired after timber is cut.

Fires chiefly on south sides of hills, Indians fired the foot-hills up to the year . The fire burned chiefly the south slopes and left the timber back. Now coming in thick, mostly "red fir", a little white fir, some a hundred feet high.

Elmer J. Applegate.

Fred L. Applegate.

In the afternoon saw those checked thus ✓,
with the following additional

Arctostaphylos , one at Hazeldell ^{covered} bridge

Rododendron californicum

Ribes menziesii

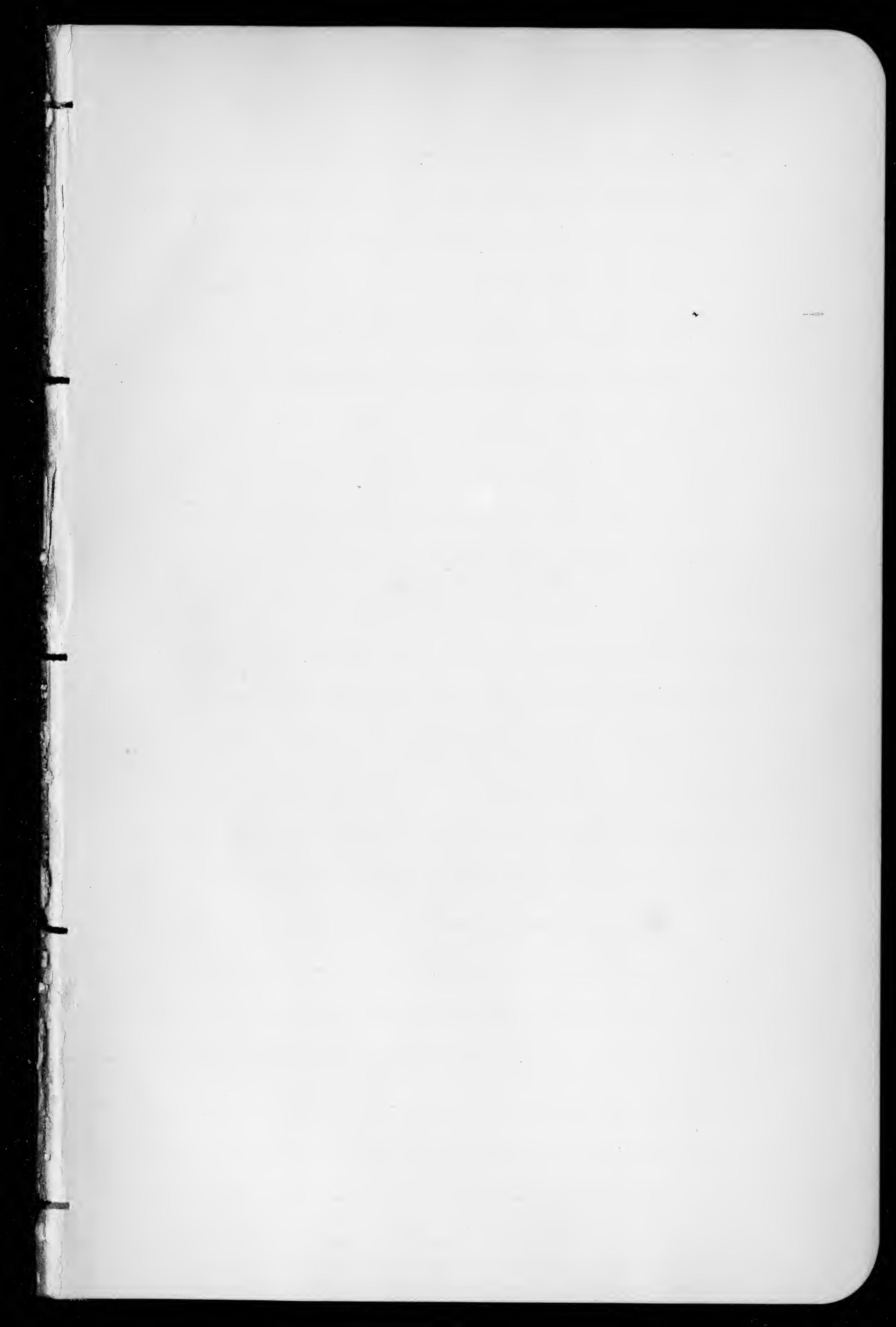
Ceanothus cuneatus, one shrub seen.

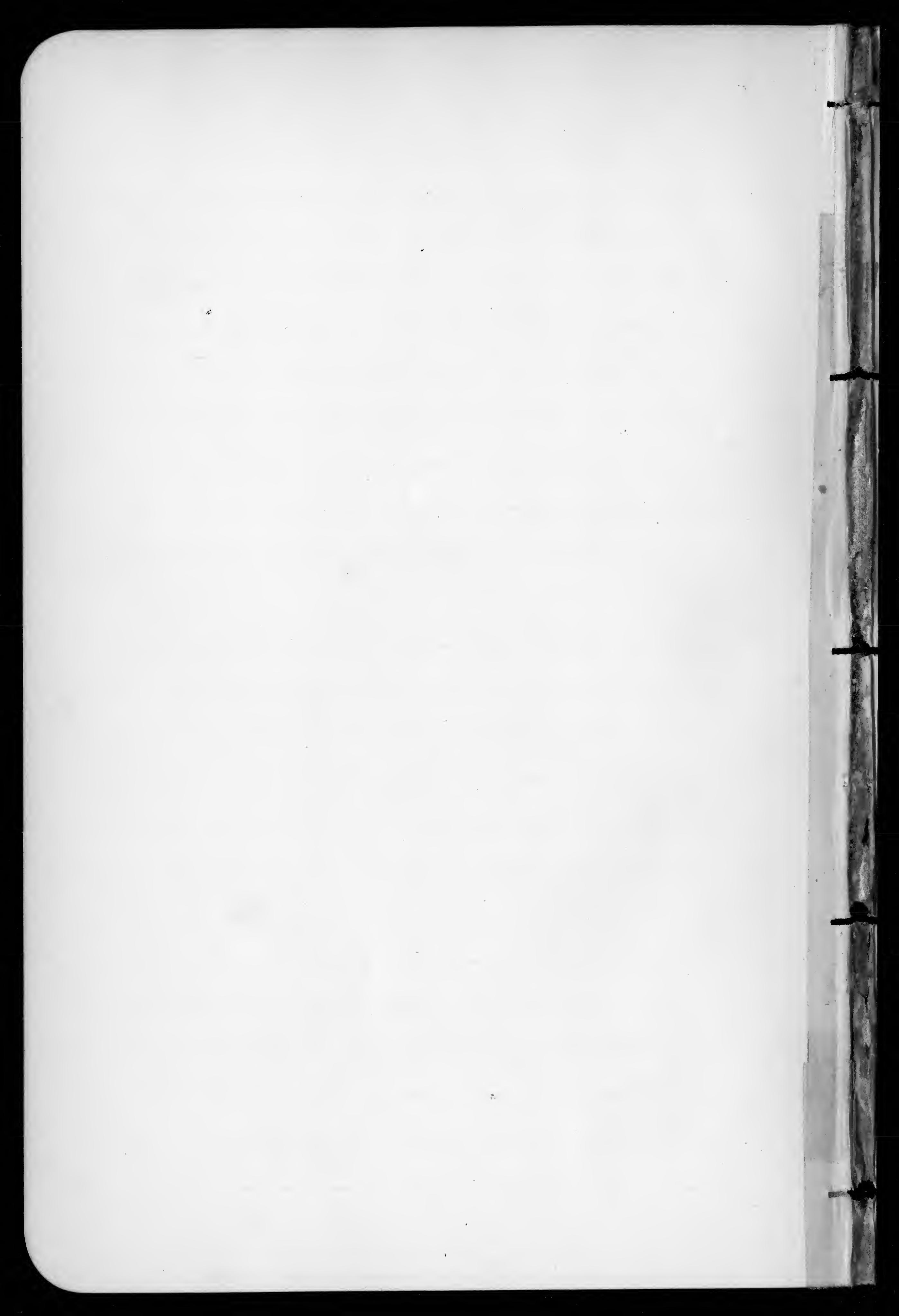
Spiraea douglasii

Salix discoloroides, as at Lake Mirell

Pinus ponderosa was found only in the vicinity
of Hazeldell, with great quantities of *Lurcus garyana*,
on and about the bald south slopes.

Pachystima myrsinites was probably seen in one place





Hood River, Sept. 5, 1895.

Came up from Portland by rail to-day, arriving about eleven o'clock. In the afternoon took a short tramp near town with the Hon. E. L. Smith. Along the river bottoms are

Populus trichocarpa

Cataegus douglasii.

Salix populinolia

Pseudotsuga menziesii.

Salix fluviatilis

Fragaria organa

On the slopes, which are partly open, are

Quercus garryana

Pinus ponderosa

Salix nuttallii

Rhus diversiloba

Kunzia tridentata.

Amelanchier alnifolia

Philadelphus lewisii

Symphoricarpos

Corylus californica

Rosa.

Berberis aquifolium.

Holodiscus ariaefolius.

Rubus vitifolius.

Prunus mollis, as well as

Cataegus douglasii.

Above the black huckleberry timber on Mount Hood found the following:

Pinus albicaulis
Juniperus monos
Perecedamnus matindalei
Encephalitus
Polygonum
Polygonum davisciae
Eryngium umbellatum a.t.
Senecio triangularis
Chrysanthemum bolanderi
Phlox douglasii
Trisetum subspicatum
Carex breweri
Achillea millefolium a.t.
Lonicera involucrata
Spraguea umbellata a.t.
Poa
Phacelia a.t.
Pentstemon Davidsonii a.t.
Sitanion a.t.

Sorbus occidentalis
" *subtigris*
" *metensionis*
Mimulus lewisii
Solidago
Lupinus lyallii a.t.
Artemisia
Aste procumbens
Silene a.t.
Carex missipata
Festuca a.t.
Saxifraga tolmiata a.t.

In the upper edge of *Pinus albicaulis* on the south east slope were
Juniperus parryi
Calochortus monos
Antennaria alpina
Agrostis
Carex ovata

a.t. = above timberline

Cloud Cap Inn, Oregon Sept. 6, 1898.

Camped up from Hood River to-day with Miss Florence Merriam and Mr. A. J. Johnson.

Country badly burned, one fire now burning east of the East Fork.

At about 4000 feet Douglas fir forest changed to *Pinus murrayana*, ~~whis~~ with a mixture, varying in abundance, of *Abies concolor*, *Abies amabilis*, *Tsuga sp. mertensiana* and other trees mentioned in notes. At about 5500 forest changed to a growth of principally black hemlock, and at about 6000? to a growth principally of white-barked pine.

White River bottom, Oregon, Sept. 7, 1898.

With Douglas Langille climbed the Cooper Spur of Mount Hood; crossed the East Fork glacier, descended the ridge between the waters of Hood River and White River, descended the Hood River side of the forested divide between the two rivers, crossed over this divide to the sandy bottom of White River and ~~then~~ traveled down the bottom to a forest fir about a mile below the point where the river turns to the south. Here we camped in the woods, surrounded by the forest fir. ^{Readings}

Cloud Cap Inn	6000
Timberline n.e.	7100
" s.e.	7350
Camp.	4000

6

u

Government Camp, Mt. Hood, Oreg., Sept. 8, 1898.

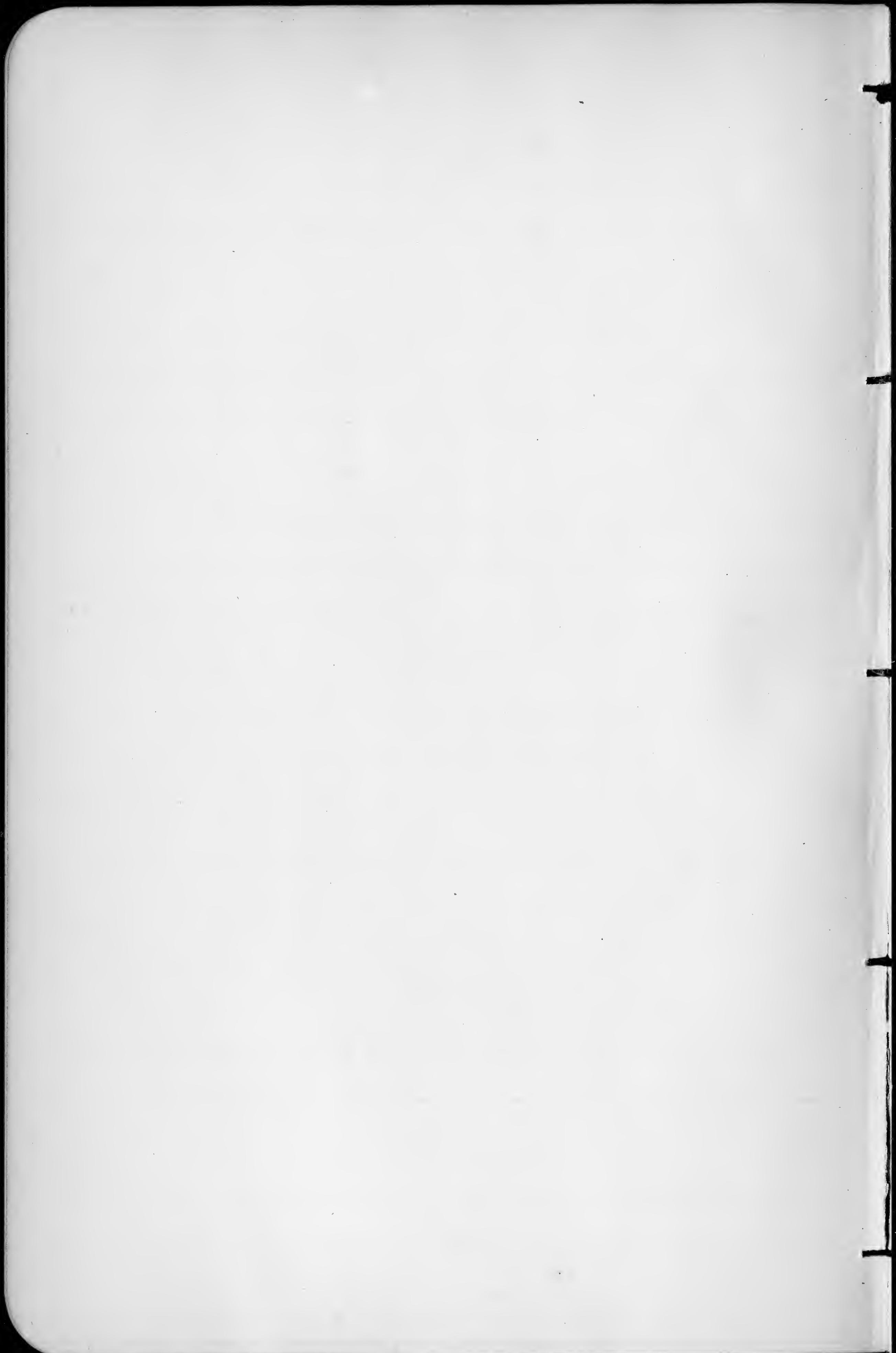
Came up White River bottom on the old Indian trail, crossed the ridge between White River and Salmon River at about timber line, descended the road to Summit Prairie, and then went ~~back~~ over the old Barlow Road to Government Camp.

Government Camp, Mt. Hood, Oreg., Sept. 9, 1898.

On invitation of C. W. Haight, forest ranger, accompanied him and F. H. Wakefield, another forest ranger, both of The Dalles, to a fire near the Barlow road about two or three miles east of Summit Prairie. Returned to Government Camp.

Cloud Cap Inn, Mount Hood, Oreg., Sept. 10, 1898.

Left Government Camp at 6:30 A.M., ascended the southwest slope of Mt. Hood and came down the northeast slope, arriving at Cloud Cap Inn at ~~2~~ 2:50.





Trees and shrubs.

<i>Abies amabilis</i>	<i>Betula glandulosa</i>
.. <i>concolor</i>	.. <i>occidentalis</i>
.. <i>grandis</i>	<i>Cassiope</i>
.. <i>lasiocarpa</i>	<i>Castanopsis chrysophylla</i>
.. <i>lineata</i>	
.. <i>mobilis</i>	<i>Ceanothus cuneatus</i>
.. <i>shastensis</i>	.. <i>cordulatus</i>
<i>Acer circinatum</i>	.. <i>integerrimus</i>
.. <i>glabrum</i>	.. <i>frustratum</i>
.. <i>macrophyllum</i>	.. <i>sanguineus</i>
	.. <i>velutinus</i>
<i>Alnus oblongifolia</i>	<i>Celtis</i>
.. <i>orogana</i>	<i>Cercocarpus betuloides</i>
.. <i>serrata</i>	.. <i>ledifolius</i>
.. <i>ternifolia</i>	<i>Chamaecyparis nootkatensis</i>
<i>Amelanchier alnifolia</i>	<i>Chrysothamnus albicans</i>
.. <i>pallida</i>	.. <i>bloomeri</i>
<i>Arctostaphylos arborea</i>	.. <i>brunneus</i>
.. <i>nevadensis</i>	.. <i>douglasii</i>
.. <i>pallida</i>	<i>Cornus nuttallii</i>
.. <i>fratula</i>	.. <i>pubescens</i>
.. <i>nivea</i>	.. <i>sanguineus</i>
<i>Arbutus menziesii</i>	<i>Corylus californica</i>
<i>Artemisia arbuscula</i>	<i>Crataegus</i>
.. <i>cana</i>	..
.. <i>tridentata</i>	<i>Cytisus scoparius</i>
<i>Berberis agrestis</i>	<i>Echinophora horridum</i>
.. <i>nervosa</i>	<i>Eriodictyon californicum</i>

<i>Eriogonum stellatum</i>	<i>Phoradendron</i>
.. <i>umbellatum</i>	<i>Phyllocladus empetrifolius</i>
<i>Fraxinus ornata</i>	.. <i>glanduliflora</i>
<i>Garrya fremontii</i>	<i>Picea engelmanni</i>
<i>Gaultheria myrsinoides</i>	<i>Pinus albicaulis</i>
.. <i>ovatifolia</i>	.. <i>attenuata</i>
.. <i>shallon</i>	.. <i>lambertiana</i>
<i>Holodiscus ariaefolius</i>	.. <i>monticola</i>
.. <i>discolor</i>	.. <i>murrayana</i>
<i>Juniperus communis</i>	.. <i>pondosa</i>
.. <i>occidentalis</i>	<i>Polygonum shastense</i>
<i>Kalmia glauca</i>	<i>Populus tremuloides</i>
<i>Kunzia tridentata</i>	.. <i>trichocarpa</i>
<i>Larix occidentalis</i>	<i>Prunus demissa</i>
<i>Libocedrus decurrens</i>	.. <i>lmarginata</i>
<i>Lonicera ciliosa</i>	.. <i>mollis</i>
.. <i>cosyngialis</i>	.. <i>subcordata</i>
.. <i>edulis</i>	<i>Pseudotsuga menziesii</i>
.. <i>hispida</i>	<i>Pyrus rivularis</i>
.. <i>involucrata</i>	<i>Quercus chryssolepis</i>
<i>Menziesia rosea</i>	.. <i>garryana</i>
<i>Opulaster fruticosa</i>	.. <i>kelloggii</i>
<i>Osmarina cerasiformis</i>	<i>Rhamnus alnifolia</i>
<i>Pachystima myrsinoides</i>	.. <i>purshiana</i>
<i>Philadelphus lewisii</i>	<i>Rhododendron</i>
<i>Phlox douglasii</i>	<i>albiflorum</i>
	<i>californicum</i>

Rhus diversiloba

.. *glabra*

.. *trilobata*

Ribes ambiguum

.. *atriples*

.. *avium*

.. *bracteosum*

.. *canonicum*

.. *ceratum*

.. *cerazu glabrum*

.. *erythrocarpum*

.. *howellii*

.. *lacustre*

.. *laxiflorum*

.. *leptanthum*

.. *lobii*

.. *merriami*

.. *sanguineum*

.. *saponum*

.. *viscosissimum*

Rosa glauca

.. *gymnoecarpa*

.. *macrocarpa*

.. *picocarpa*

.. *picocarpoides*

.. *woodsii*

Rubus lasiococcus

.. *lenco dermis*

.. *nitidus*

.. *parviflorus*

Rubus speciosus

Rubus spectabilis

.. *vitifolius*

Salix barclayi

.. *discoloroides*

.. *longifolia*

.. *nuttallii*

.. *populifolia*

.. *velutina*

.. *parvifolia*

.. *discolorifolia*

Sambucus glauca

.. *pubens*

Sorbus occidentalis

.. *sambucifolia*

Spiraea albuscula

.. *douglasii*

.. *lucida*

.. *merriami*

Symporicarpus

Taxus brevifolia

Tetradymia canescens

Thuja plicata

Tsuga heterophylla

.. *meertensiana*

Umbellularia californica

Vaccinium altum

.. *cespitosus*

.. *caespitosum*

.. *glaucum*

.. *membranaceum*

.. *myrtillus*

.. *ovatum*

.. *parvifolium*

.. *scoparium*

(*Vitis*

Viburnum

Mr. Washburn, Shelburn, postmaster,
will direct one to the Miller brothers
who are familiar with early firs.

